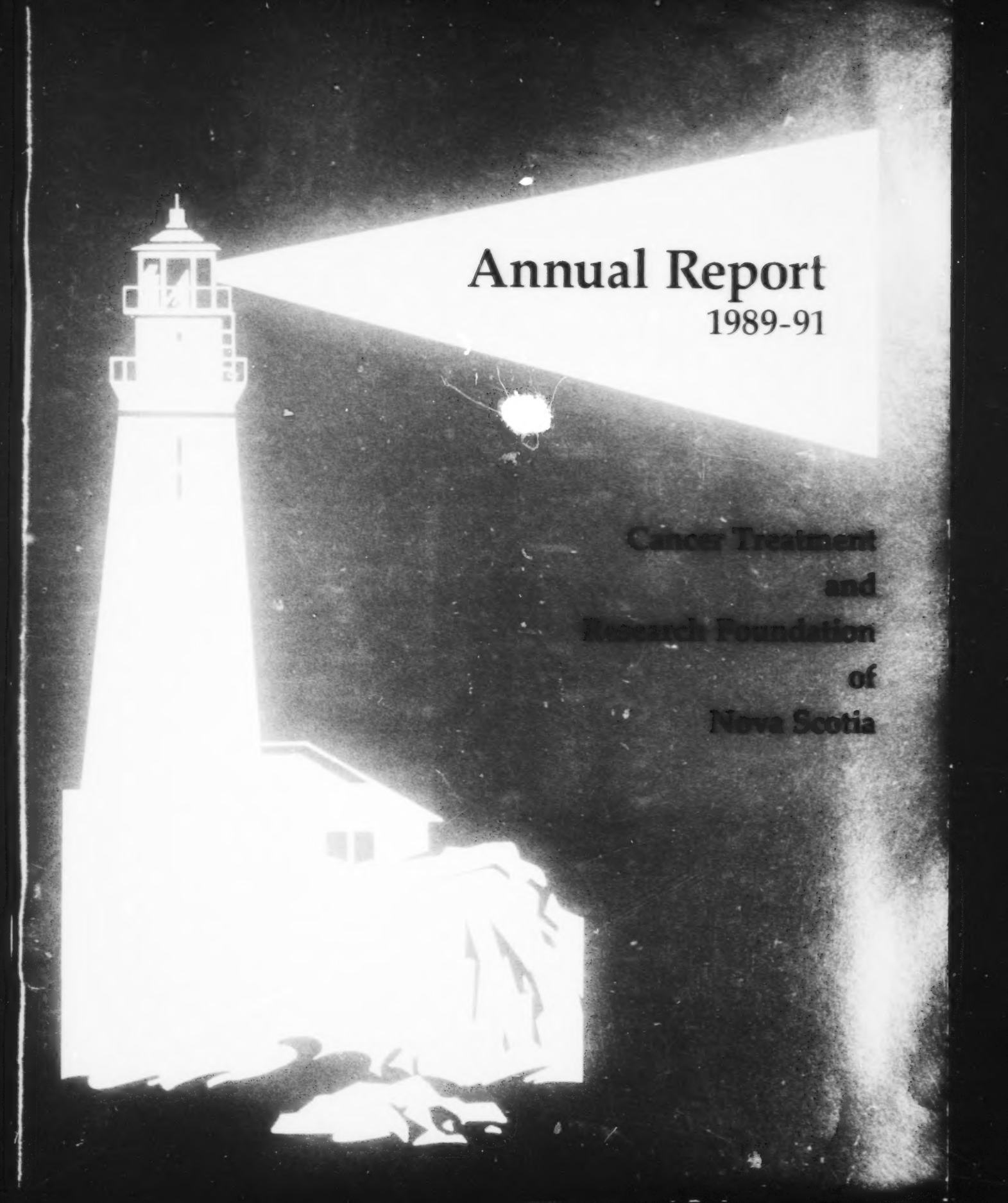

Annual Report
1989-91

Cancer Treatment
and
Research Foundation
of
Nova Scotia

93-01395/

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CTRF Nova Scotia

HALIFAX CLINIC
5820 University Avenue
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* Resignation
† New Appointment
□ Specific Constituency under the CTRFNS Act, 1980

Chairman's Report

Dear Mr. Minister:

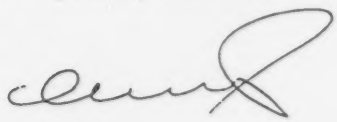
It is with pleasure that I commend to you this Annual Report of the Cancer Treatment and Research Foundation of Nova Scotia. It is a statutory requirement for the Foundation to provide government with an annual financial statement and a report for the Provincial Cancer Registry. In addition it has become our custom to provide a general overview of the Foundation's activities. These reports are usually delayed one year, but with the restructuring of the Halifax Clinic we have decided to combine the general reports for the two years April 1, 1989 to March 31, 1990 and April 1, 1990 to March 31, 1991 in order to provide an up-to-date report on the organization.

The Foundation has been in existence for 10 years, during which time I believe we have made a positive impact on cancer care and treatment in the province. The concept of multidisciplinary patient care is the corner stone of our Foundation programming and I am pleased to note that our clinics are now organized within the framework of multidisciplinary tumour site groups, where physicians, nurses, and paramedical personnel work in a coordinated manner to provide comprehensive cancer care.

The Board continues to evaluate and appraise the performance of the Foundation with a view to increasing the efficiency and better utilization of resources consistent with quality cancer care. It is the continuing challenge of the Board to match resources with the demands for services.

I wish to recognize the dedicated staff of our Foundation, who take considerable pride in the quality of care we give to our patients. In particular, I would like to recognize the leadership of Harry Churchill, the Executive Director and Dr. Peter Fitzpatrick, the Physician-in-Chief.

Respectfully submitted,



C. H. Durland
Chairman

Executive Director's Report

As noted in the Chairman's remarks, this report will be covering a two year period. These two years have seen many changes in the Foundation and its services. The comments and information contained in the various reports outline most activities.

We received approval to replace our current simulator which resulted in renovations. Unfortunately, it has taken longer than expected and the new equipment will not be operational until the fall of 1991. During this period, planning and development of our new patient information system took place. We are very appreciative of the support and assistance provided by the Ontario Cancer Treatment and Research Foundation in this area.

In early 1991, the Foundation acquired a High Dose Rate Brachytherapy Selectron. This is recognized as a significant new advance in care for certain types of cancer for the people of Nova Scotia.

A provincial working group has been established under the Cancer 2000 Task Force with representation from the Foundation, the Department of Health and Fitness, the Nova Scotia Division of the Canadian Cancer Society, and a patient. It is chaired by Dr. Kenneth MacKinnon who prepared a report to the national group after surveying most interest groups in the province. We were able to assist Ontario in 1989 by having some of their patients referred here for radiation treatment. This annual report contains information on the first Atlantic Provinces Oncology Conference which we sponsored and co-ordinated. Our Board provided funds to support several research projects during the year. Hyperthermia was an area of special interest.

The provincial cancer agencies continue to meet on an annual basis to exchange information and discuss topics of mutual interest. In addition to our 1990 annual meeting in Winnipeg, a conference on community oncology programs was held.

The Board spent considerable time discussing our role and the development of a strategic plan. At the same time, the Metropolitan Hospital Advisory Committee were planning to establish an oncology review task force. The task force has been put in place with three representatives from the Foundation and as a result, our role study has been placed on hold. We look forward to the task force recommendations which will benefit the Foundation and the people of Nova Scotia.

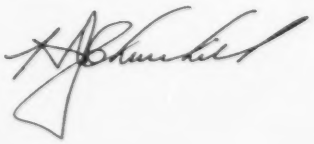
During these years the Board committees have been busy looking at organization, structure and by-laws, as well as the regular activities of their committees.

We engaged Nycum and Associates to assess our space requirements and the need for additional space as well as some renovations to our current space was recommended. This report was submitted to the Department of Health and Fitness in June 1990 and we are disappointed in not having received a response to date. We also had a team visit from the Department in 1990 and are waiting for this report.

We received a major donation from the Order of the Eastern Star of Nova Scotia and Prince Edward Island and the funds are being used to assist in patient needs and research. We were all pleased in 1990 when the Nova Scotia Division of the Canadian Cancer Society opened "The Lodge That Gives" for patients coming to Halifax for treatment and other services. This facility provides a place away from home and is appreciated by all who use it.

In closing, I would like to thank the members of the Diana Bleakney Guild for their invaluable help acting as hosts to our many patients, the Cancer Society for their programs and support for patients and their families, and to our staff who serve in so many ways - for their advice and assistance but mostly for the empathic care they give to the patients who come to our facility.

Harry J. Churchill, C.H.E.
Executive Director



Physician -in-Chief's Report

This report outlines the changes that were implemented in the Foundation in order to set new directions for the 90's and to achieve the Mission of the CTRFNS. The Halifax Clinic opened in 1982 with the amalgamation of the old Tumour Clinic of the Victoria General Hospital and the Departments of Radiotherapy at the Halifax Infirmary and the Victoria General Hospital. The clinic reorganization is based on the establishment of multidisciplinary tumour site groups (TSG's) where physicians of different disciplines, nurses and other paramedical personnel can work in a coordinated manner to provide optimum patient care and to concentrate experience. This then has the potential to lead to the development of an academic oncology centre of excellence. The days have long gone since any one physician alone could provide comprehensive state-of-the-art medical care. Fourteen TSG's have been identified and these will be modified according to need.

The new system was implemented on April 1, 1990. Two physician coordinators, one a consultant and part-time member of staff, and the other a full-time medical or radiation oncologist were appointed to lead each group. We are experimenting with a new medical advisory committee that will be made up of the first coordinators of the 14 TSG's. Of these, nine are consultants (seven surgeons and two physicians) and the other five are full-time radiation and medical oncologists. In this way we have broadened the input into our clinical activities and tried to strengthen the multidisciplinary nature of the Foundation. The membership in any particular TSG is open to anyone with an interest in that field and all are encouraged to attend the regular conferences. However, for logistical reasons only a limited number of physicians can be credentialed to practice in the Halifax Clinic. The coordinators will be responsible, in consultation with their colleagues, to develop programs and protocols for the various types and stages of disease. These will eventually be written down and published in the form of a book which will be available to every physician in Nova Scotia. This will enable doctors in other communities to follow the guidelines developed by the CTRFNS/Dalhousie University oncology group. It is not our wish to dictate to the academic community, or to any physician as to how to treat a particular patient, but to suggest guidelines that have been carefully developed and endorsed by peer review. Although the clinics will be multidisciplinary, many patients will see only one physician at a visit and we will try to preserve the very special doctor/patient relationship. All patients, however, will have the benefit of a multidisciplinary oncologic opinion and their care will be monitored through a quality assurance process. A primary nurse has been appointed to each TSG and together with the physicians will be responsible to plan and coordinate that clinic. The Head and Neck/Ear, Nose and Throat, and Ophthalmology TSG's will be centred at the Halifax Infirmary while the Paediatric TSG will be conducted at the Izaak Walton Killam Hospital for Children.

The aim of interdisciplinary TSG's will be:

- To promote and develop truly provincial and university programs that encompass all relevant clinical, basic and community health departments and all hospitals and facilities.
- To foster communication and collaboration, but not to dictate activities to other physicians and health care professionals so that productive, practical, and collaborative academic programs will develop.

Activities will include:

(a) An information exchange between various departments and hospitals.

(b) Documentation of activities including the establishment of a clinical data base.

(c) The promotion and development of cooperative projects between departments, hospitals and institutes.

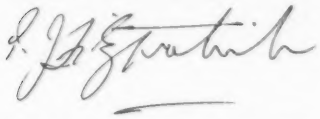
(d) The development of suggested treatment guidelines and protocols, their publication and distribution through Nova Scotia.

(e) The development of comprehensive programs where indicated.

Now that we have had one years' experience with TSG's we will be reviewing this program using specific criteria to measure both success and failure. I anticipate that some modifications will be necessary with an already overcrowded clini. and little hope for expansion. In addition, a limited budget will necessitate us taking a hard look at the clinic's activities and to priorize programs where we are the only provincial resource. We can expect about 4,000 new cancer cases (excluding skin malignancies) in Nova Scotia annually. Of these about one-third to one-half may be seen at one of our clinics, and most of these "new" cancer patients will already have had their first planned treatment started before referral to a CTRFNS clinic. Thus the importance of establishing and publishing policies and standards for care in order to help provide quality assurance in oncology.

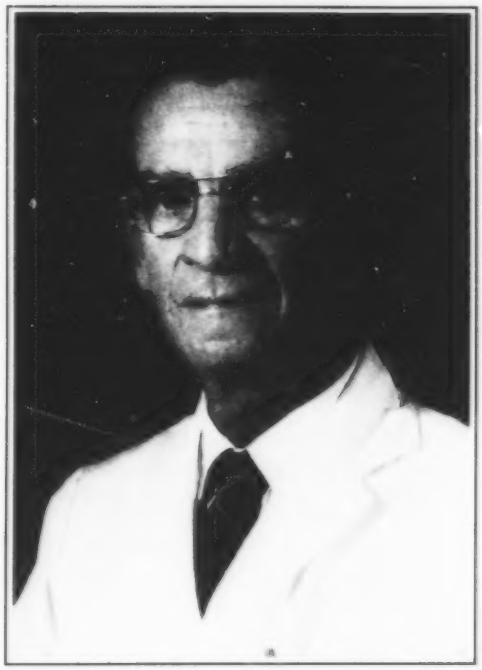
There has been a significant increase in academic activities as shown by the presentations and publications of staff. In addition to TSG conferences, oncology rounds are held every Wednesday from 8:30 to 9:30 a.m. and research rounds every Thursday from 12:15 to 1:45 p.m. These are open to all clinic staff and are well attended. In addition, other physicians and scientists are encouraged to attend and to participate in the programs.

The CTRFNS is a multifaceted organization whose members have diverse philosophies, interests, and priorities. Our main objectives must be earnestly pursued so that we can deliver the best possible care for our patients and give strong support to educational and research activities. We must also provide a unified front as we deal with the complex socioeconomic issues and concerns facing the health care system.



P. J. Fitzpatrick, MB, BS, FRCPC, FRCR
Physician-in-Chief

Dr. Dugald H. Thomson (1924 - 1990)



Doug Thomson, the first director of the Cancer Treatment and Research Foundation of Nova Scotia, and formerly professor and chairman of the Department of Radiation Oncology at Dalhousie University and Head of the Department of Radiation Oncology at the Victoria General Hospital died suddenly on the 18th of September 1990 in London, Ontario. He was born in Glasgow, Scotland in 1924 and graduated from the Glasgow University medical school in 1947. This was followed by three years military service in the Royal Army Medical Corp during which time he was stationed at Malta. Following demobilization he undertook postgraduate training in radiation oncology in Glasgow and received the DMRT (London) in 1952. He emigrated to Canada the next year and was appointed as a radiation oncologist at the London Clinic of the Ontario Cancer Treatment and Research Foundation where he remained until 1980. This was the year in which he was recruited to become the first director of the CTRFNS and the first professor of radiation oncology at Dalhousie University. He retired in 1989 to London, Ontario. Dr. Thomson was one of the last all-round radiation therapists who truly specialized in the non-surgical treatment of cancer and was also one of the earliest chemotherapists. His main clinical interests were in relation to tumours of the head and neck and gynaecological malignancies. He had a life-long interest in medical records and was the director of the tumour registry of the CTRFNS until his retirement. His expertise in this field was acknowledged and he was an advisor to the medical records departments and tumour registries in several hospitals and other provinces.

The first prototype cobalt-60 unit became available for clinical use in 1951. The first patient to receive supervoltage irradiation was treated in London in October 1951 just three years before Dr. Thomson arrived in Canada. In 1957, together with Ivan Smith, he probably delivered the first paper on the use of cobalt-60 radiation to treat oral cancer. In 1964 Dr. Thomson was a co-author of the first book published on supervoltage cobalt-60 irradiation. They reported a series of 4,600 patients treated over a 10 year period with the original Eldorado kilocurie stationary unit and subsequently with a rotational hectocurie plant. This book, outlining the clinical experience and treatment technology, became a standard work and was required reading for radiation oncologists, radiation therapy technologists and clinical physicists for many years.

Outside of medicine Dr. Thomson was an avid gardener and spent many happy hours in his English garden. Golf was another great love and he was a long-time member of the London Hunt Club. At the time of his death he was survived by his wife Nan whom he married 33 years ago, by three sons and one daughter and four grandchildren. Tragically, Nan died just three weeks later. He will be sorely missed by his colleagues and friends in Nova Scotia and Ontario.

P. J. Fitzpatrick, MB, BS, FRCPC, FRCR
Physician-in-Chief

Patient Statistics

PATIENT VISITS

	New Patients	Patient Visits		
		Clinic	Radiation	Chemotherapy
Halifax Clinic				
April 1, 1990 to March 31, 1991	2023	14,864	22,099	2,858
April 1, 1989 to March 31, 1990	2092	14,198	22,514	2,546
Satellite Clinics				
April 1, 1990 to March 31, 1991		1,235		
April 1, 1989 to March 31, 1990		1,099		

PATIENTS TREATED BY RADIATION

Type of Treatment	Patients		Treatment Visits	
	Apr. 1/90 Mar. 31/91	Apr.1/89 Mar. 31/90	Apr. 1/90 Mar. 31/91	Apr. 1/89 Mar. 31/90
X-Ray	118	110	607	477
Linear Accelerator	755	796	11,993	11,906
Cobalt	992	1,032	9,311	9,903
Gold Seed	73	70	73	70
Caesium	82	103	83	118
Other (P^{32},I^{131})	32	40	32	40
TOTAL	2,052	2,151	22,099	22,514

Departmental Reports

Health Records

Health Records has had a busy and productive two years while attempting to meet its objectives of providing quality patient records for direct care and research purposes. Department staff actively participated in several committees including Health Records, Cancer Registry, and the Computer Advisory Group. This department deals on a daily basis with outside physicians' offices, provincial hospitals, and other health care facilities. Frequent communication with these areas is essential so that an efficient flow of information takes place.

Recent highlights include:

- Training for health record science students in epidemiology based projects
- Acquisition of computerized word processing for medical transcription
- A part-time epidemiologist continued to work with the provincial registry on data quality issues
- Job descriptions were completed for all staff in the department
- A significant impact on the department was seen with the formalization of TSG's; Reception and scheduling in particular dealt with the conversion of all appointments in the previous clinics to the new TSG clinic format
- Planning and implementation of a central scheduling office to coordinate new patient referrals, appointments, and information gathering.

In the upcoming year staff have identified several areas that will require attention:

- Continued development of the computer system
- Ongoing improvement in the quality of cancer data
- More coordinated patient appointments with TSG's
- Further development of central scheduling
- Possible relocation and staffing changes for the Nova Scotia Cancer Registry
- Chart tracking
- Filing space.

Information Systems

The most significant change to impact the department in the past two years was the management and budgetary approval to replace the current computer system. This necessitated a review of computer needs within the Foundation as a whole. Current manpower and budget restrictions are forcing medical centres to make better use of existing staff, resulting in increased demands on computers to simplify information processing. Timely and accurate information is required to facilitate such tasks as workload measurement and procedural evaluation.

The major requirements identified for the new system include:

- flexibility to meet the changing needs of a medical environment
- modern technology (4GL language) to allow support and future development to be handled by existing staff

- "user friendly" software to allow direct interaction between the end user and the data
- ability to communicate easily with other systems to facilitate exchange of information
- cost effectiveness in response to budgetary restraint.

The review process indicated that a system developed by the Ontario Cancer Foundation appeared to meet the majority of these requirements. Along with being cost effective, it will allow replacement of the CYCARE system with minimal developmental effort, and maintain the flexibility for change which is so critical to addressing future needs. Agreement has been reached with Ontario for the Foundation to receive a copy of their software and a "Development System" has been purchased to allow evaluation and testing of the Ontario software with respect to the Foundation's specific needs. The Development System has already had a positive impact on our ability to handle requests for information by allowing transfer of data from the CYCARE system in tape/diskette format rather than reports and in facilitating data manipulation not previously available.

Maintenance of the current system continues to be a major problem especially with increased demands for information from both internal and external sources. Although a hold has been placed on any change or development on the existing system, requests for information continue to be supported. Some of the more significant projects include:

- ongoing involvement in the quality assurance audit being carried out by the Registry
- requests for graphic support
- data requests to support student projects
- participation in a plan to initiate a major death clearance project in conjunction with Statistics Canada.

An unrelated task of the Coordinator of Information Systems, through the Fire and Safety Committee, was the establishment of a comprehensive fire plan for use within the Halifax Clinic. The refinement of this plan and associated training documents continues.

Major goals for 1990 - 1991:

- Evaluation, modification, testing and implementation (proposed for June 1991) of the Ontario software to form a new clinic Management System within the Halifax Clinic. Major applications to include: Patient Profile, Disease Registration, Resource Scheduling.
- Definition of the equipment requirements for the clinic system, development, and approval of the associated budget and installation of the equipment in conjunction with implementation plans.
- Resubmission of historical data (1969-1989) to Statistics Canada in preparation for their national report.
- Collection and generation of a tape of all data associated with the Death Clearance project being initiated by the Nova Scotia Provincial Cancer Registry.

Medical Physics

This department plays a vital role in the radiation therapy treatment process. The department's four radiation therapy medical physicists and two radiotherapy planning technologists work with radiation oncologists to introduce patients to radiotherapy procedures and to prepare detailed individualized plans for each patient. The planning process involves imaging the treatment area with x-rays using a radiotherapy simulator or CT scanner and the development of extensive computerized calculations of radiation beam dose distributions. The mould room technologist prepares immobilization casts for the patient and specialized shields to shape the beams. After the planning process is complete, patients receiving external beam radiotherapy proceed to the radiotherapy department for treatment. Patients to receive treatment from interstitial or intracavity radiation are planned by the brachytherapy technologist.

Behind the scenes, our machinist and electronics technologist carry out quality assurance and maintenance procedures on the radiotherapy and computing equipment and build many of the specialized items needed to facilitate the treatment process.

The medical physicists supervise the quality assurance procedures to ensure that the treatment machinery is accurately calibrated and that the various x-ray, gamma ray, and electron radiation sources are properly characterized and understood. Three physicists provide medical physics imaging services to the Victoria General Hospital and the Camp Hill Medical Centre. The department provides radiation safety services to the CTRFNS/VG complex and Dalhousie and employs a radiation safety technologist. The department is also assisting with the development of the new clinic information system.

Medical physicists are in an ideal position to contribute to research in radiation therapy and imaging because of their association with clinicians. Most of the research is applied in that it is used to solve current problems in patient management. Currently our research projects include:

- patient contour acquisition and compensator design
- radiotherapy beam optimization
- the use of expert systems in linear accelerator maintenance
- evaluation of coronary artery stenosis
- the use of ultrasonic catheters in the diagnosis and treatment of human arteriosclerosis
- teleradiology, port films, and pulmonary embolism.

Development also continued in several other areas including hyperthermia, radiosurgery, treatment planning, the measurement of radon levels in homes, magnetic resonance imaging, and mammography.

There is a severe shortage of medical physicists throughout North America and the department has continued attempts to interest students in the area. Staff participated in projects at TUNS as part of the engineering program. Mr. Alex Dejordjevich completed his PhD studies in radiotherapy optimization under the direction of supervisors at the University of New Brunswick and the CTRFNS.

A new radiotherapy simulator has been ordered and will be installed in 1991. Our brachytherapy program is being significantly enhanced with the purchase of a micro selectron high dose rate afterloading system. Our next goal is to replace our 25-year-old cobalt units with more accurate and reliable equipment. The treatment plannning system will also need to be updated or replaced within two years.

The department is having serious problems maintaining efficient and up-to-date patient services in the face of very limited health care funding. Space, equipment, and staff are all in short supply. The two planning and simulation staff have had an increased workload of 280% and 80% respectively since 1981. Other treatment facilities in Canada have twice the number of staff for comparable workloads. We are fortunate, however, to have a competent and dedicated staff and hope to maintain a high level of service.

In July 1989 Dr. Andrew was appointed director of the department, replacing Dr. Aldrich who had held the position for nine years. Mr. Berry and Mr. Kulkarni resigned to accept positions in the U.S.A. and New Brunswick respectively. We thank them for their efforts in the Clinic and wish them well in their future endeavours. Dr. Hale is to be congratulated on receiving his PhD from the University of New Brunswick, and Drs. Meng, Samant, and Mr. Chantziantoniou have joined the department as junior physicists. Mr. Berkey was promoted to physicist and Mr. Worobec joined the department as the electronics specialist.

Nursing

The administrative decision to move to a TSG concept within the Halifax Clinic provided an opportunity for the nursing staff to further develop their roles. Staff agreed that the Primary Nursing Model was tailor-made to meet the diverse needs of oncology patients. The realities of the ambulatory care setting would, however, demand an innovative approach if we were to achieve success with this model without compromising principles of practice. Factors impinging upon the change from a functional to a primary model included: high patient volume-to-time ratio, numerous functional tasks assumed by nurses, inadequate staffing due to traditional outpatient staffing patterns and the current economic status of the provincial health care system.

Advantages of the shift to a modified Primary Nursing Model included the provision for the nurse to assume responsibility, autonomy, and accountability for the assessment, planning, implementation, evaluation, and coordination of nursing care. This focus would establish nursing care as being patient-centred, rather than task-oriented and would provide for a comprehensive, continuous, coordinated approach to patient/family care.

To facilitate adaptation of this model to the ambulatory care setting, the traditional rotational pattern was abandoned in favor of staff assignment to specific TSG's. A nurse coordinator and associate nurses were assigned to each TSG as well as to chemotherapy. The radiotherapy nurse coordinator and radiotherapy staff nurse position remained as non-rotational positions.

The nurse coordinators assumed responsibility for the overall coordination of nursing care within the TSG which included management of patient flow, completion of nursing assessments, assisting physicians, and evaluation of the nursing care provided. General objectives were established for each site-specific group with a target date of completion in time for the April 30/90 start-up date of the TSG concept.

Throughout the 90/91 fiscal year, the effectiveness of this version of the Primary Nursing Model was evaluated. Benefits and limitations of the change were readily identified. Staff found the continuity of care to be both rewarding and stimulating and both patients and physicians expressed satisfaction in the continuity of nursing care. The greatest challenge involved adjusting to the escalating crises of inadequate funding to support a holistic approach to patient care. Staff demonstrated innovation and creativity as they came together and devised new and inventive approaches to the delivery of quality patient care.

1990/91 provided an opportunity for staff to reflect on their values and beliefs as they relate to oncology nursing. A philosophy for the department was developed and it's acceptance by staff will provide direction for future endeavours.

Radiotherapy

Staff have continued to focus on the provision of high quality care in the past two years. The process of undergoing external body radiation can be very threatening for the patient and family, and technologists attempt to provide continuous support, empathy, and encouragement during this difficult time. The treatment rooms were refurbished and individualized by the addition of soft colours, flowers, curtains, and music which was felt to promote relaxation and stress inhibition during the delivery of radiotherapy. Staff were able to provide their expertise to several patients from Ontario who were accepted for treatment at this facility after long waits developed secondary to technologist shortages in that province.

A close affiliation exists with the medical physics department which has permitted evaluations and improvements of current practice including unit quality assurance, pelvis set-up techniques, chart quality assurance, and unit hand-control research.

Workload on the treatment units has remained relatively constant over the last five years. Approximately 150 patients commence treatment each month with 75% being new patients. In the past two years an increase has been seen in the percentage of patients being treated on the linear accelerators relative to the other units. In 1989 and 1990 respectively, 1,087 and 1,059 patients were treated on the linear accelerators while 775 and 825 were treated on the cobalt units. Within the last year, it has been noted that more patients are receiving their therapy on an outpatient basis. Staff have also noted increased patient satisfaction related to this switch in emphasis from inpatient to outpatient status.

Technologists improved the awareness of their profession by active participation in "The Recognition of Radiation Technologist Week" and promoted the slogan "We radiate with warmth".

School of Radiation Technology

Commencing in September, the length of the training program for radiation therapy technologists was increased from 24 to 32 months. This was necessary due to major changes in the curriculum and to meet clinical practice and experience requirements. The 26 week didactic course is held at the Toronto School of Radiation Therapy in the Princess Margaret Hospital. The clinical training plus supplementary lectures that comprise the remainder of the course are carried out in the CTRFNS, Halifax Clinic.

The current student complement for the program is eight with four new enrollees starting each year. An application was made and approved to increase our enrolment to four per year, prompted by the world-wide shortage of radiation technologists especially in Canada. This past year we have tried to improve our methods of screening, interviewing, and selection of new students in order to meet this challenge.

Two students graduated in September 1989, and an additional graduate in September 1990. Congratulations are extended to James Clancey who has accepted a position here at the Halifax Clinic, Patricia Charman who has moved to the Princess Margaret Hospital in Toronto, and Jill Taylor who has returned to her home province of Newfoundland.

Research and Development

Although research has been part of the mandate of the Foundation since its inception in 1981 these efforts were not formalized in a department until August 1989. These first few months have therefore been directed at evaluation and planning.

Research in its broadest sense means "looking afresh at what we do" and trying to improve on it. This is something in which we all share. It is appropriate at this time with a newly defined set of goals for the Foundation and a new Physician-in-Chief, that we all realize the opportunities that these efforts may afford. The CTRFNS has reached a certain maturity as far as research is concerned and we are perhaps on the threshold of an exciting new era as we nurture these interests.

The Nova Scotia Provincial Cancer Registry provides a valuable tool for retrospective studies in the incidence of cancer. More than 30 reviews of cancer incidence in various regions of Nova Scotia have been undertaken. There are now so many requests for such data that priorities have had to be established. As the public becomes increasingly aware of the environment a further increase in the number of such studies can be expected. In the current review of future computer needs for the CTRFNS we will have to address the vital role that the Registry provides to researchers both inside and outside the CTRFNS.

As with all medical treatment it is important to review treatment outcome regularly. Unfortunately, few reviews of this type have been carried out in Nova Scotia. This situation is currently being rectified with seven retrospective reviews now in progress. The sites being studied include Hodgkin's disease, cancers of unknown origin, prostate, cervix, and head and neck sarcomas. We have been fortunate in having several research fellows and summer students to assist with this important work:

Research Fellows:	Dr. S. Voruganti	- Ca Cervix Review with Dr. T. Whelan
	Dr. A. Karunanithy	- Ca Prostate Review with Dr. P. Joseph
	Dr. A. Addad	- Head & Neck Cancer Review with Dr. P. Fitzpatrick
Summer Students:	Mr. R. Bardeesy	- Medical Physics Compensators
	Mr. B. Hughes	- Measurements of Radiation Parameters of Treatment Machines
	Ms. C. Rogerson	- Ca Breast Review with Dr. G. Ege

Basic research is also a focus for development and in most cases this is directed towards a clinical problem; for example the accuracy of radiotherapy treatment fields, the manufacture of radiotherapy compensators or the analysis of radiographs. Often the outcome of the research is put into practice in the clinic. Not infrequently the work is carried out in collaboration with other institutions and we have been pleased to work with other departments in Dalhousie, the Technical University of Nova Scotia, the University of New Brunswick in Fredericton, and of course the Victoria General Hospital. At present there is ongoing research in the development of techniques for treatment and temperature measurement in hyperthermia, more accurate radiotherapy involving surface landmark measurements and real time fluoroscopy, and the development of new methods for the calculation and measurement of the absorbed dose of radiation in tumours and normal tissues.

At present we have no stable funding for research and development and it is imperative that such funding be established in the CTRFNS if research is to continue and even expand. This is as true for the prospective clinical trials and retrospective reviews as it is for developmental work. We have had some success at attracting funds from the major national grant awarding bodies such as the Medical Research Council but it is very difficult to obtain money especially for development work in the cancer field. We estimate

that at present at least 2,000 sq. ft. of space is required just to carry out the research and development programs now in progress. Because of the already crowded conditions within the Halifax Clinic any new research programs will have to go into additional space. Negotiations are in progress with the Victoria General Hospital to obtain a suitable location for CTRFNS research in their proposed Centre for Clinical Research.

The CTRFNS has decided to make radiotherapeutic treatment by brachytherapy a major thrust. To this end a High Dose Rate Afterloading Selectron System has been purchased and one of our radiation treatment rooms modified for its use. The first patient will be treated in May 1991.

It is hoped to provide a climate for research in cancer care by promoting greater staff participation in this field. To help in the coordination of this effort a database of all cancer research associated with the CTRFNS will be developed together with another for agencies and groups which may fund these ongoing activities. The recently formed Research Committee of the Foundation has the mandate to coordinate all research in the CTRFNS, including treatment reviews, clinical trials, basic research and development, and epidemiological studies.

Medical Oncology

During the past two years, the medical oncology staff was reduced to one physician, Dr. Ron MacCormick who also fulfilled the role of acting department head. Additional support for the department was provided by several clinical associates: Drs. Kathy Sharma, Bruce Colwell, Linda Nicol and Avi Ostry.

In spite of staffing problems clinical activity remained high during these years with over 700 consultations being performed annually. In recognition of the major contributions made by the clinical associates they were provided with financial support to attend various national and international conferences related to oncology.

A retrospective review of the first year of the Cape Breton Cancer Clinic was initiated using resources granted from Dalhousie University. This work was presented at the 1990 University "Friday At Four" student research presentations and was awarded first place honours from the faculty student summer research projects.

Although clinical trials are no longer a component of the department members have continued to play a major role in this field. The soliciting of funds from various sources such as drug companies is ongoing to support this important activity.

A concerted effort has been made to increase the profile of medical oncology through teaching. At present a 10 month lecture series is given to interns, residents, and clinical clerks at the Victoria General Hospital. Hours are also provided in the curriculum for pharmacology and therapeutics, death and dying, and other special topics.

In association with the increased teaching profile a local, national, and worldwide review of oncology curriculum was undertaken. This was presented internally, and then externally to the University Medical Education Curriculum Committee. As a result the committee strongly supports an increased profile for oncology within the medical school. A committee of enthusiastic members from several faculties has been struck to facilitate this increased integration.

The department has ended the year on a very positive note with the recruitment of two medical oncologists to fill existing vacant positions. We have been fortunate to attract Dr. Pedro Lopez, a medical oncologist and haematologist who was trained in Kingston and

Ottawa, and Dr. Richard Gregg who received his medical training from the University of the West Indies and his subsequent training in internal medicine from the University of Toronto, and specialized medical oncology training at the University of Ottawa. This leaves one vacant position which hopefully will be filled by a senior medical oncologist who could also be appointed as the head of medical oncology. These staffing changes will provide for a more equitable distribution of clinical workload and provide greater opportunities for participation in teaching and research activities in the upcoming year.

Radiation Oncology

The Department of Radiation Oncology (DRO) is the only radiotherapy centre in Nova Scotia and is responsible for these services in the province and for tertiary referral from Maritime Canada. Radiation oncology and radiotherapy are not well understood by many in the Atlantic Provinces. The following provides a capsule outline of the DRO.

The DRO is an independent medical department of the VG Hospital as it is within the Faculty of Medicine at Dalhousie University. Radiation oncology is a clinical specialty and not a practice confined to the radiotherapy department. Radiation oncologists are concerned with all facets of neoplastic disease including:

- accurate diagnosis and staging
- optimum therapy
- administering all modes of radiotherapy
- evaluation of length and quality of survival and morbidity of therapy.

It is recognized today that with the increasing complexity of medicine it is inevitable that radiation oncologists will further specialize within their field. Our policy is for each staff member to have particular expertise in one or two tumour sites, with the potential for gaining national or international recognition for his/her efforts and publications in these areas. An active participation in the management of two other sites ensures a broad range of interest and back up for colleagues.

The clinic was saddened by the death of Dr. Dugald Thomson, and soon afterwards by his wife Nan, just one year after his retirement from Halifax. Our deep sympathy is expressed to members of his family (obituary p.5). With the departure of Dr. Dugald Thomson in June 1989 as Director of the Halifax clinic a new position of Physician-in-Chief was established. Dr. Peter Fitzpatrick, a senior radiation oncologist at the Princess Margaret Hospital in Toronto, and a professor at the University of Toronto for 25 years was recruited in his place. Since his arrival, the CTRFNS has adopted a tumour site group (TSG) approach to the organization of care within the clinic. The previous individual clinics have been replaced by multidisciplinary TSG's where each patient can benefit from the expertise of several specialists.

The DRO has been strengthened with the appointment of Dr. Timothy Whelan, a Rhodes Scholar from Newfoundland, who completed undergraduate and medical training at Oxford in England before returning to Canada to complete his specialist training at the Princess Margaret Hospital.

In January 1990, Dr. Gunes Ege joined us from Toronto. She had been a senior radiation oncologist at the Princess Margaret Hospital for 20 years, was head of the Department of Nuclear Medicine and a world authority on lymphoscintigraphy. Unfortunately she was recruited back to Toronto in January 1991 to work at the Toronto-Bayview Cancer Clinic and to coordinate the interface research between basic science and clinical practice. Their gain is our loss. We thank Gunes for a productive year of service during which she reviewed the charts of 1,100 patients with breast cancer in an attempt to record the outcome of care for patients referred to the CTRFNS.

A further addition to the staff came in the person of Dr. Farrok Karsan who completed his undergraduate training at Brown University in Rhode Island and recently finished specialist training in radiation oncology at the Princess Margaret Hospital and Toronto-Bayview Cancer Clinic. The final addition to staff was Dr. A. Tadros who arrived in January 1991. Dr. Tadros joined us from MacMaster where he was a senior radiation oncologist on staff since 1972 with the Ontario Cancer Treatment and Research Foundation - Hamilton Regional Cancer Centre. During this time he pioneered electron beam therapy for mycosis fungoides which remains the standard therapy for some stages of this disease. With new staff, and for the first time a full complement, more time could be devoted to academic work including participation at scientific meetings, publications, along with research and development work. Special projects include studies on an acoustic thermal mapping device for control of hyperthermia treatments. This project, led by Drs. Filbee and Aldrich is a new invention that was first described at the meeting of the Canadian Association of Radiologists in Halifax in 1986.

To support new programs at the Foundation, staff have attended various education sessions. Dr. Paul Joseph spent six weeks in specialist training for hyperthermia and brachytherapy in the cancer centre at Long Beach in California while Dr. John Filbee attended a one week course on hyperthermia at the Mallincrodt Institute of Radiotherapy at St. Louis, Missouri.

The DRO continued to be very active with a daily average of 100 patients receiving radiation treatments. During the year 1990 approximately 22,285 radiation treatments were delivered which included 1,948 new courses of treatment. This indicates that each radiation oncologist started 278 new courses of treatment during the year. The nationally recommended case load for a radiation oncologist is 200 new patients a year and so we will be reviewing our manpower plan in the months ahead.

Members of the DRO conducted regular peripheral clinics in both Yarmouth and Sydney. In Yarmouth an average of 30 review patients and six new consults were seen quarterly while in Sydney an average of 40 review patients and 10 new consults were seen monthly. Due to resource limitations the Yarmouth Clinic had to be suspended. We expect that as a result of the report of the Royal Commission on Health Care Services in Nova Scotia that there will be increased activity in peripheral clinics in the years ahead.

Surgical Oncology and Medical Specialties

With the advent of tumour site groups, the physicians who continue to have regular clinics in the CTRFNS are addressing clinical issues through the specific TSG structure while SOMS itself continues to deal with the more global administrative matters. An account of members' activities are included in the reports of the specific TSG's.

In the past two years the department has actively participated in the many organizational changes taking place within the Foundation including a review of the medical staff by-laws. The group is committed to the continued development of cancer care and with the concept of multidisciplinary management within the TSG's.

Tumour Site Group Reports

Tumour Site Groups

Tumour Site Groups (TSG's) have been in place since April of 1990. Many are still developing and growing with various stages having been reached in regard to protocol development, case rounds, clinical trials, and other academic ventures. Most of the TSG's currently operate a regular site clinic either at the CTRFNS or one of its associated facilities. Some of the TSG members are active clinic participants while others are primarily involved in protocol development and business meetings.

Breast TSG

Coordinators	G. Ege, MD,FRCS,FRCR,FRCPC *	Time	8:30 a.m. - 4:00 p.m. (M)
	T. Whelan, MD, FRCPC		8:30 a.m. - 1:30 p.m. (F)
	B. Steele, MD, FRCSC		
	A. Hammer, RN	Site	Halifax Clinic
Frequency	Monday & Friday	Conference	As required

This is a very busy clinic which in addition to carrying a large service load, has become increasingly involved in prospective randomized clinical trials. It is spread through five clinic sessions during the working week. The surgeons involved are Drs. Bodurtha, Higgins, and Steele; the radiation oncologists are Drs. Ege, Wong, and Whelan; and the medical oncologists are Drs. MacCormick, Lopez, and Gregg.

Women with breast cancer constitute one of the largest patient populations referred to the CTRFNS. A preliminary evaluation of referral patterns to the clinic suggest that some patients may not be seen in the clinic at the time of the initial diagnosis and surgery when the prognosis might be influenced by careful staging and standardized adjuvant therapies. The UICC TNM staging form is being distributed to all referring physicians and surgeons to enlist their collaboration in recording accurately the preoperative clinical staging data on all new patients. An updated, concise nursing assessment form will also expedite the collection of personal information relevant to breast cancer. The collective expertise in this group is a resource that is accessible to every patient in the Maritimes.

An audit of the records of all patients with breast cancer seen at the CTRFNS between 1980 - 1989 has taken place in order to evaluate the efficacy of data retrieval, the quality of records, and the characteristics and outcome of breast cancer in Nova Scotia. We view this as a necessary and constructive exercise in order to identify and address any deficiencies in our overall approach to the medical, economic, social, and psychological burden presented by breast cancer in this province.

* Resignation

Central Nervous System TSG

Coordinators	P. Joseph, MD,FRCPC	Site	Victoria General Hospital
	R. Holness, MD,FRCSC	Conference	4th Wednesday,
	R. MacAskill,RN		3:00 p.m. - 4:00 p.m.
Frequency	Wednesday		
Time	1:30 p.m. - 4:00 p.m.		

This group is developing a coordinated multidisciplinary approach to neuro-oncology. The active physicians in the clinic are Drs. Holness, Malloy, Joseph, and MacCormick. At present for logistical reasons they see their patients independently but cross

consultations are available. In the future it is hoped that all new and problem cases can be reviewed jointly and this will provide a valuable source of learning for residents and increase the potential for cooperative studies. A database is being developed, the nucleus of which already exists in the CTRFNS.

It is planned to institute brachytherapy using stereotactic techniques and the new remote afterloading high dose rate Selectron for some brain tumours in the coming year. Another venture that we are particularly excited about is the use of stereotactic radiotherapy as a gamma knife for the treatment of arteriovenous aneurysms. This unit is a tertiary referral one for Atlantic Canada and will provide a tremendous opportunity to develop the necessary neuro-oncology services for the region.

Endocrine TSG

Coordinators	G. Ege, MD,FRCS,FRCR,FRCPC * A. Tadros, MD, FRCPC A. MacDonald, MD, FRCSC A. Hammer, RN	Time	1:30 p.m. - 4:00 p.m.
		Site	Halifax Clinic
		Conference	Nil
Frequency	Thursday		

A sound referral pattern for this clinic still has to be established. Endocrine tumours are relatively infrequent with the most common being those of the thyroid gland. We should expect to see 5-10 new patients each year and the different histological types require different treatments and frequently combinations of modalities. For these reasons this makes an interesting TSG and it allows for the concentration of experience on rare tumours and for the development of optimal patient care. During the next year efforts will be made to attract more new patients in order that these tumours can be studied and prospective clinical trials supported. It is planned to review the provincial experience with thyroid cancers in order to provide a database for future projects.

Genitourinary TSG

Coordinators	S. Awad, MD,FRCSC * O. Millard, MD,FRCSC P. Joseph, MD,FRCPC T. Gordon, RN	Time	8:30 a.m. - 1:30 p.m.
		Site	Halifax Clinic
		Conference	As required
Frequency	Wednesday		

The active clinicians in the clinic are urologist Dr. P. Belitsky; radiation oncologists Drs. P. Joseph and F. Karsan; and medical oncologist Dr. R. Gregg. In any urological practice patients with cancer account for approximately 50% of the workload. Although our clinic is relatively small the multidisciplinary group is evolving and will be developing policies for treatment including the overall management and follow-up for different cancers. The treatment of superficial bladder cancer with intravesical BCG will continue and the initial results appear promising. We expect to change and update the treatment of some prostatic cancers from the implantation of radioactive gold grains to the use of iridium using the new remote afterloading high dose rate Selectron. This treatment is expected to be cost effective and will reduce the radiation exposure to medical and paramedical personnel to zero.

Gynaecology TSG

Coordinators	J. Jeffrey, MD,FRCSC T. Whelan, MD,FRCPC J. Dickson, RN,BN	Time	8:30 a.m. - 1:30 p.m.
		Site	Halifax Clinic
Frequency	Tuesday and Friday	Conference	Disposition Clinic Friday, 8:30 a.m. - 10:00 a.m.

The Royal College of Physicians and Surgeons of Canada has approved our program in gynaecology oncology as an accredited training program for this sub-specialty. It is a two year course and includes obtaining experience in radiation oncology provided by the DRO and medical oncology through that department in the University of Ottawa. There are only three such accredited programs in Canada.

The gynaecologic oncology TSG held its first meeting in September 1989. Membership consists of gynaecological oncologists Drs. R. C. Fraser, J. F. Jeffrey and M. G. Tompkins; radiation oncologists Drs. P. K. Joseph and T. Whelan; medical oncologist Dr. R. MacCormick; and pathologist Dr. I. Zayid. This TSG was expanded and further developed from the pre-existing multi disciplinary gynaecological oncology follow-up clinic with its bi-weekly disposition clinics.

The group have been meeting monthly to plan the re-organization of the clinic and the coordination of the services by the different specialists. New patients are seen jointly by a gynaecologic oncologist and radiation oncologist. Following this there is a formal disposition clinic including pathology review on Friday mornings. In the future a shorter disposition clinic will be implemented into the Tuesday session to facilitate the final management decisions for certain patients rather than waiting for Friday.

Four clinics are held each year in Sydney and manned by two gynaecologic ongologists. This is essentially a follow-up clinic and reduces the necessity of patients travelling to Halifax. The clinic has generated the following statistics:

April 1, 1989 - March 31, 1990:

Halifax Clinic -	new patients	19
	return patients	2,206
	disposition	578
Cape Breton Clinic -	303 patients	

April 1, 1990 - March 31, 1991:

Halifax Clinic -	new patients	99
	return patients	2,393
	disposition	396
Cape Breton Clinic -	277 patients	

The TSG is currently addressing the patient population seen in the return clinics in order to ascertain whether certain groups of patients can be adequately followed by either their referring gynaecologist or family physician in order to better utilize the resources of the CTRFNS.

In the near future the TSG hopes to incorporate a representative from social services to try and compliment the holistic approach to patient care which is currently practised in the gynaecology oncology unit of the Victoria General Hospital.

The group remains active in clinical research and patients have recently been enroled into the NCIC Phase II Cervix I trial in which Dr. Paul Joseph is the principal investigator. This was a feasibility study pertaining to the concomitant use of cisplatinum as a radio-

sensitizer with radical pelvic radiotherapy for high-risk squamous cell carcinoma of the cervix. This study has now been closed with the initiation of the NCIC's Phase III Cervix II Study again with Dr. Paul Joseph as the local principal investigator. This study will compare conventional and radical pelvic radiotherapy versus radical pelvic radiotherapy with cisplatinum in patients with high-risk squamous cell carcinoma of the cervix. In the near future a Phase II trial assessing Taxol in patients with epithelial ovarian carcinoma who have failed the first and/or second line platinum based chemotherapy will be conducted. A local Phase II study assessing the use of carbo-platinum combined with cisplatinum in patients with metastatic epithelial ovarian carcinoma will be analyzed. A conjoint study with the University of Toronto assessing the use of 5-FU and Folinic Acid in heavily pre-treated patients with epithelial ovarian carcinoma who have relapsed has been completed.

Dr. R. C. Fraser will be going on a one year sabbatical in order to study behaviourial oncology and the cancer screening programs which currently exist in Australia. The group will continue to evolve and progress with its primary goal - that of the care of women with gynaecologic malignancies within the Province of Nova Scotia.

Haematological TSG

Coordinators	L. Fernandez, MD,FRCPC R. MacCormick, MD,FRCPC * P. Lopez, MD,FRCPC M. Stewart, RN	Time	11:30 am. - 1:30 p.m.
		Site	Halifax Clinic
		Conference	Friday, 1:30 p.m. - 2:30 p.m.
Frequency	Tuesday and Thursday		

The original name of the group was the Lymphoma TSG and it was changed to its present title by consensus of the group. This term better describes the scope of activities as far as cancer medicine is concerned. Although numerically lymphomas represent the largest number of malignancies arising from the haematopoietic system there are a number of other malignancies that include acute and chronic leukemias, myeloproliferative disorders, myelodysplastic states, and others that fall within the scope of oncologic practice in haematology.

Over the past year the group has continued to recruit patients in the Hodgkin's and non-Hodgkin's lymphoma protocols in collaboration with the Cancer Control Agency of British Columbia. These new protocols represent state-of-the-art regimes and we are hopeful that these will improve the overall results of treatment. The active clinicians in the clinic are haematologic oncologists Drs. S. Robinson and R. Langley; radiation oncologist Dr. O. Wong; and medical oncologists Drs. P. Lopez and R. Gregg.

Head and Neck/Ear, Nose and Throat TSG

Coordinators	E. Attia, MD,FRCSC P. Fitzpatrick, MB,BS,FRCPC,FRCR E. Gibbs, MN,RN D. Nilsen, RN	Conference	Tuesday, 8:00 a.m. - 9:00 a.m.
Frequency	Tuesday	Team:	
Time	9:00 a.m. - 4:00 p.m.	1.	F. Wong, MD,FRCSC P. Fitzpatrick, MB,BS,FRCPC,FR B. Baker, RN
Site	Nova Scotia ENT Centre Halifax Infirmary	2.	J. Nasser, DDS,MD,FRCSC J. Filbee, MB,BS,FRCPC J. Phillips, RN
		3.	E. Attia, MD,FRCSC A. Tadros, MD,FRCPC M. MacPhee, RN

This multidisciplinary TSG now sees the majority of patients with epithelial tumours of the head and neck in Nova Scotia. In 1990 there were 160 new patients and a total of 1,441 patient visits. For the first three months of 1991, 22 new patients were seen together with 454 follow-up visits. It is clinic policy that once the first planned treatment is completed and patients are stable that much of the follow-up be carried out by the referring physicians elsewhere in the province.

Multidisciplinary rounds are held weekly and these provide a forum to discuss patients with difficult management problems and to review issues which require shared decision making. Nurses, social workers, speech therapists, and palliative care staff are part of the team and actively participate in the discussions. Undergraduate and postgraduate teaching is carried out at rounds and in the clinic which lets students examine cancer patients firsthand and see the decision making process between the patient and different specialists. Various treatment options are reviewed together with their advantages and disadvantages. New patients are staged with the UICC system with the agreement of two consultants from different medical disciplines.

During the past year the first draft for standard protocols for the different tumours treated by the group was completed. It is planned to undertake a number of retrospective reviews in the coming year in order to provide a better local database for current practice and to identify prospective clinical studies.

As part of their role as educators in promoting healthy lifestyles, the nurses in the group put together an anti-smoking display which has been taken to some metro high schools. The response from the students was extremely encouraging and this venture will be repeated in the fall.

Musculoskeletal TSG

Coordinators	M. Gross, MB,BS,FRCSC R. MacCormick, MD,FRCPC R. MacAskill, RN	Time	1:30 p.m. - 4:00 pm.
		Site	Halifax Clinic
		Conference	As required
Frequency	2nd and 4th Thursday		

The other physicians actively involved in this clinic are radiation oncologists Drs. T. Whelan and O. Wong. The original name for this group was the Sarcoma TSG but it was changed to the present title to more actively reflect the tumours that are managed in this TSG. Sarcomas are uncommon tumours but of great interest. Treatment in recent years using combined modalities of surgery, radiotherapy, and chemotherapy has improved the overall results. Another major advance has been the development of limb sparing surgery which has been facilitated with the support of radiotherapy and chemotherapy.

Ocular and Orbital TSG

Coordinators	B. Horsman, MD,FRCSC P. Fitzpatrick, MB,BS,FRCPC,FRCR	Time	1:30 p.m. - 4:00 p.m.
		Site	Nova Scotia Eye Clinic Halifax Infirmary
Frequency	2nd and 4th Mondays		
		Conference	As required

Patients with tumours of the eye and orbit including the eyelids are seen in this clinic. In addition patients with other lesions amenable to radiotherapy such as thyrotoxic

exophthalmos and pterygium are also seen. The clinic also provides a service for patients with ocular problems associated with other cancers or its treatment. A full range of ophthalmic services including direct and indirect ophthalmoscopy, visual acuity, visual field assessment, fundus photography, fluoresein angiography, and ultrasonography are available.

The clinic has been approved by the National Eye Institute in Washington for participation in the Collaborative Ocular Melanoma Study. This is a group of 42 major eye institutes in the United States and Canada with a focus on the treatment of choroidal melanoma. This is the biggest prospective randomized study ever mounted by the National Eye Institute and its primary aim is to determine the optimum treatment for choroidal melanoma in terms of survival and where possible the preservation of vision. Dr. Fitzpatrick is the prinicpal investigator; Dr. Horsman the primary ophthalmologist and plaquing surgeon; Dr. J. McNeil the enucleating surgeon and echographer; and Mrs. Geralynn Hirsch the clinic coordinator. The study will cover Atlantic Canada and it is hoped to enroll the first patients in the fall of 1991.

Paediatric TSG

Coordinators	O. Wong, MD,FRCPC A. Pyesmany, MD,FRCSC
Site	Izaak Walton Killam Hospital for Children
Conference	Once or twice a month, as required

The paediatric group holds a weekly haematology/oncology clinic. Multidisciplinary opinions are obtained as required and in the near future it is hoped to have a regular combined follow-up clinic. The Paediatric Tumour Board meets once or twice a month to review new and problem patients and these meetings are attended by haematology oncologists, a radiation oncologist, pathologist, and diagnostic radiologist. Medical students, residents, and fellows attend these conferences which serve as a good educational tool. Fortunately paediatric cancers are uncommon but considerable experience is obtained because the group serves Atlantic Canada. There is participation in cooperative studies with national and international children's cancer study groups. During the next year protocols for different tumours and stages of disease will be developed and eventually published.

Psychosocial/Pain TSG

Coordinators	J. Filbee, MB, BS, FRCPC J. Clark, MD, FRCPC V. Sullivan, RN, BN

This complex group is just starting to develop and will probably work in association with the Palliative Care Unit at the Halifax Infirmary of the Camp Hill Medical Centre. The original concept was to provide a pain clinic but it was soon realized that it would need a broader mandate and so will be expanded to include palliative care, psychosocial oncology, psychiatry, social work, chaplaincy and probably other disciplines. In all probability it will develop into a consultative group rather than as a specific clinic although through it patients will be triaged to other clinics. It will be involved in discussions with Dalhousie University and the Department of Health and Fitness in taking a fresh look at the care of cancer patients who are not amenable to curative treatment. It is anticipated that palliative care will develop rapidly over the next few years and is now where geriatrics was 20 years ago.

Skin TSG

Coordinators	J. Ross, MB,BS,FRCPC P. Fitzpatrick, MB,BS,FRCPC,FRCR T. Gordon, RN	Time	1:30 p.m - 4:00 p.m.
		Site	Halifax Clinic
Frequency	Tuesday	Conference	4th Tuesday, 4:00 p.m. - 5:00 p.m.

The dermatologists in the clinic are Drs. Ross and Klotz who attend on alternate weeks. The surgeons are Drs. Norvell and Higgins who have a particular interest in melanoma. Drs. F. Karsan and P. Fitzpatrick are the radiation oncologists and cross consultations are frequent. An academic program has been instituted and each month a staff member presents a subject for discussion. During the past few months the following topics have been presented:

- Acute epithelioma - a self healing tumour or agressive cancer? (Dr. Fitzpatrick)
- A surgeon's experience with malignant melanoma - a retrospective review of career experience (Dr. Norvell)
- Technical consideration of the radiotherpay of basal and squamous cell carcinoma (Dr. Karsan)
- Problems in the clinical diagnosis of squamous and basal cell carcinoma (Dr. Ross)
- Dysplastic nevi - a conundrum for the dermatologist (Dr.Walsh)
- The surgical management of malignant melanoma (Dr. Higgins)

Four quarterly business meetings of the group have been held at which time clinic policies were developed. The major problem facing the clinic is that the number of referrals of new cases are small in relation to the projected population requirements. In 1990/91, only 140 new patient referrals and 933 return visits were recorded. Interdisciplinary consultations with other surgical clinics must be developed and it is hoped that this will be helped with the development of oncology as a principal clinical thrust by the Victoria General Hospital.

Thoracic TSG

Coordinators	D. Bethune, MB,FRCSC O. Wong, MD,FRCPC M. Stewart, RN	Time	9:30 a.m. - 1:30 p.m. (W) 11:00 a.m. - 1:30 p.m. (F)
		Site	Halifax Clinic
Frequency	Wednesday and Friday	Conference	Wednesday

This multidisciplinary clinic is mainly concentrated on a Wednesday morning but there is a smaller clinic on Friday mornings. A regular conference has been established and protocols are being developed for the various tumours and stages of disease. Lung tumours present the single most important and major burden of cancer in Nova Scotia. There are approximately 600 new patients a year and the overall results show a median survival of 10 months from diagnosis and a 5 - 8% overall 5-year survival rate. This TSG will be studying all policies and interventions in order to determine the optimal patient management. The group also treat patients with other thoracic tumours such as mesothelioma and oesophageal carcinoma. These were the reasons for changing the name of the Lung TSG to Thoracic TSG.

TUMOUR SITE GROUP CLINICS

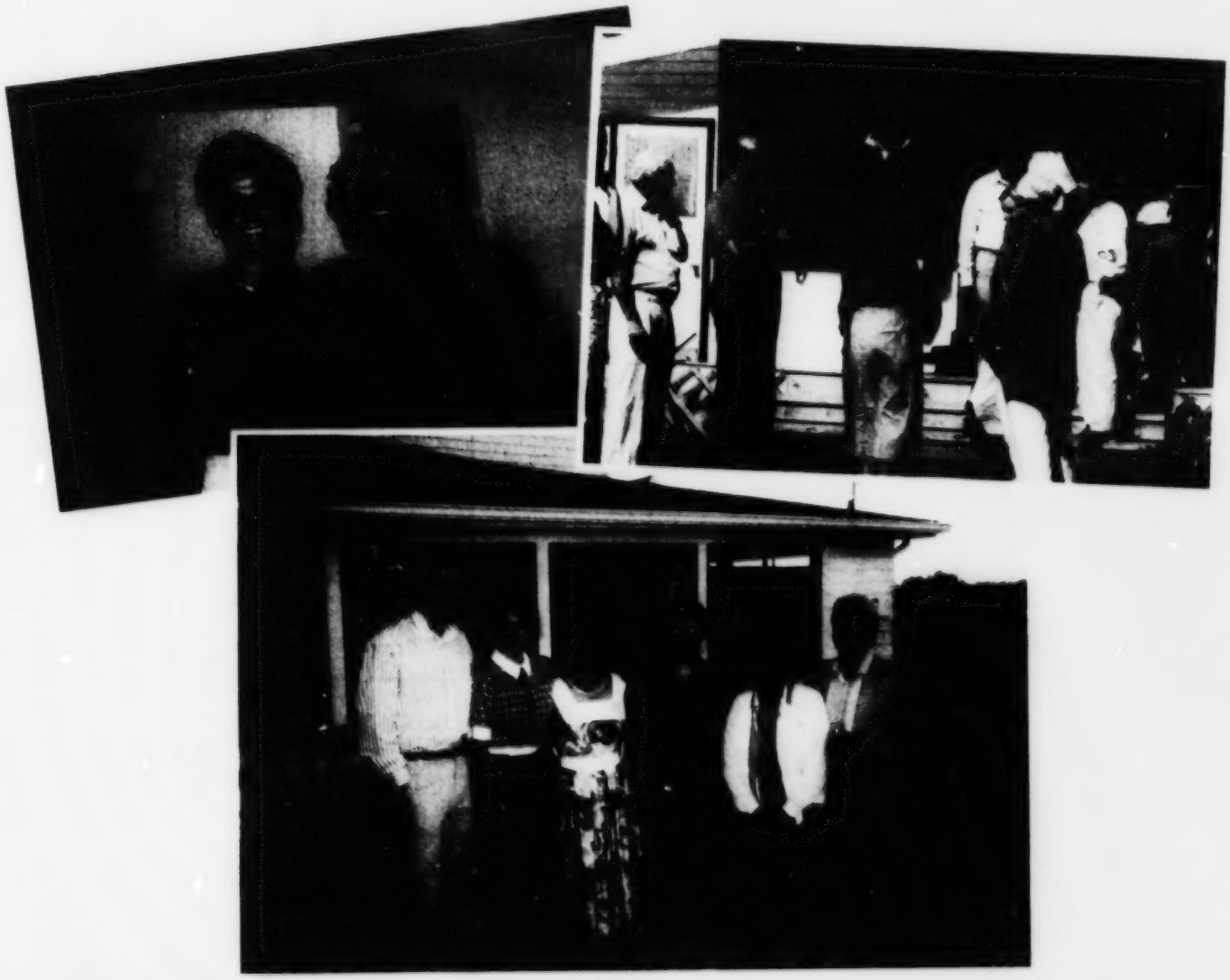
	MONDAY		TUESDAY		WEDNESDAY		THURSDAY			FRIDAY		
	CLINIC		CLINIC		CLINIC		CLINIC			CLINIC		
	C	D	C	D	C	D	A	C	D	A	C	D
8:30			MEDICAL ROUNDS		IN PATIENT/ RADIOTHERAPY ROUNDS						MO WORKING ROUNDS	GYNE DISPO (8:30-10:00)
9:30	GI CLINIC Bodurtha FK RM	BREAST CLINIC Higgins TW PL	LYMPHOMA CLINIC Robinson TW PL	GYNE CLINIC Fraser Tompkins Jeffrey PJ	GU CLINIC Belitsky PJ FK RG	LUNG CLINIC Bethune OW RM/PL		LYMPHOMA CLINIC Langley GE RG NORVELL	MEDICAL ONCOLOGY CLINIC RM		BREAST CLINIC Bodurtha JF/GE PL	GYNE CLINIC Fraser Tompkins Jeffrey
11:00	GI CLINIC C. MacDonald OW RM	BREAST CLINIC Higgins/ Bodurtha GE	LYMPHOMA CLINIC Robinson OW PL	GYNE CLINIC Fraser Tompkins Jeffrey PJ TW				LYMPHOMA CLINIC Langley OW RG	PSYCHO SOCIAL/PAIN CLINIC 2 Rooms JF	LUNG CL Bugden FK RG	BREAST CLINIC PL	GYNE CLINIC Fraser Tompkins Jeffrey TW
12:30								ONCOLOGY ROUNDS				
1:30	MEDICAL ONCOLOGY CLINIC PL	BREAST CLINIC Bodurtha OW RG	SKIN CLINIC Ross/Klotz Norvell Higgins PF FK	MEDICAL ONCOLOGY CLINIC RG	CNS CLINIC Holness/Malloy PJ/GE RM STEELE (Breast & Head/Neck	LUNG CLINIC Bethune JF RG		MELANOMA CT Bodurtha ENDOCRINE CLINIC A. MacDonald GE RG	SARCOMA CLINIC (alt weeks) Gross TW/OW RM			
4:00												
5:00						LUNG DISPO					FRIDAY AT FOUR	
	HI OCULAR & ORBITAL Horsman 1:30-4:00 PF (2nd & 4th weeks)		HI H&N/ENT CLINIC Attia, Wong, Nasser 8:30-11:30 PF/JF							IWK AM OW/PJ		

As of 90/AUG/20 (R)

Atlantic Provinces Oncology Conference 1990

APOC held its inaugural meeting at Stanhope by the Sea, Prince Edward Island, from June 27th to June 29th. Delegates came from all four Atlantic provinces and as far away as Ontario for this first meeting. There was a total registration of 60 despite a hospital strike in Newfoundland which prevented several persons from attending. The aim was to provide a forum for interaction between cancer centres in the Atlantic provinces both scientifically and socially. The main topics concerned breast cancer, psychosocial oncology, and clinical trials.

In the first session Dr. Charles Wright (Vice President of Medical Services at the Vancouver General Hospital and former Professor of Surgery at the University of Saskatoon) addressed the natural history of breast cancer and the changing patterns of practice. Dr. Haydn Bush (currently a staff psychologist at Camp Hill Medical Centre and former Director of the London Regional Cancer Centre) and Dr. Ken MacKinnon (currently Director of the Palliative Care Unit at the Camp Hill Medical Centre and former Professor of Surgery and Chairman of the Department of Urology at McGill University in Montreal) reviewed the broad field of psychosocial oncology and palliative care, and described how patients with incurable cancer could be supported with a good quality of life for long periods.



Dr. Bill Rider (Professor Emeritus at the University of Toronto and formerly Head of Radiation Oncology at the Princess Margaret Hospital in Toronto) provided a description of the development of cancer services in Canada. In the last session, Dr. Joe Pater (Director of Clinical Trials at the National Cancer Institute and Professor and Head of Community Health and Epidemiology at Queens University, Kingston) reviewed a 10 year experience with Canadian studies.

Six companies were very generous in providing funding to enable us to sponser the invited speakers from around the country. The weather was another factor in helping to make this a memorable occasion. Families were able to enjoy the beach or try their hand at wind surfing. The delicious seafood was a feature of the hotel. In the final business meeting it was decided to hold similar meetings in the future, the next to be in the summer of 1992.

J. Aldrich, PhD, FCCPM
Director of Research and Development

Satellite Clinics

The purpose of a satellite or peripheral cancer clinic is to provide special expertise in the management of malignant disease to communities a long way from a major cancer centre. They were first developed in the United Kingdom in the 1940's and 50's. The first clinics in Canada were established in Ontario in 1962 and over the years have been developed in most provinces. In Nova Scotia, clinics were established in Sydney and Yarmouth in 1988 and it is expected that as a result of the report of the Royal Commission on Health Care in Nova Scotia that regular clinics will be established elsewhere to support the major clinic in Halifax.

The clinics provide expert consultation for cancer patients in their own community. Visiting university based specialists consult with the local physicians and a decision is made as to whether specific treatments are required or not, and whether the patient needs to travel to Halifax for investigation and treatment that is not available in the local community. Some treatment, notably chemotherapy, can be given in the local community by local physicians but because of the complexity of the issues in this rapidly changing field, consultation with a medical oncologist is desirable. Following treatment, whether it be in Halifax or the community hospital, some follow-up is essential in order to assess the results of management and to provide for continuing patient care. It has been established that satellite clinics are liked by both patients and physicians and can significantly reduce travel and costs.

In Sydney, a general clinic is held monthly on the third Friday at the Sydney Community Health Centre. It is attended by a radiation and medical oncologist and two clinical associates. The support staff are provided by Sydney Community Health Centre and the nurse coordinator is Mrs. Jean MacPhee, RN. In addition, a quarterly clinic is held when two gynaecologists travel from Halifax to assess patients who have been treated for gynaecological malignancies.

In 1988 a quarterly clinic was established at Yarmouth and attended by a radiation oncologist. However, this clinic had to be discontinued in December 1989 because of a manpower shortage.

The CTRFNS would like to see the satellite clinic program expanded. However, it will require a separate budget and the recruitment of additional full-time oncologists and other support staff for an effective program to be mounted.

Patient Visits to Peripheral Clinics
(Visits include both radiation and medical oncology)

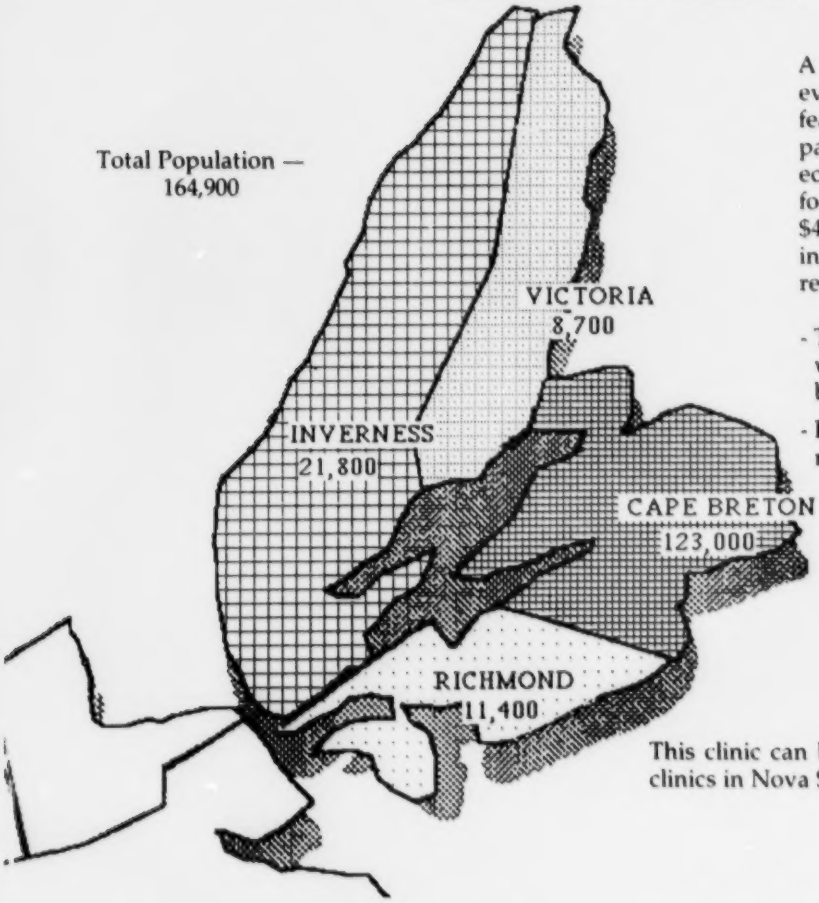
	1988/89	1989/90	1990/91
Sydney	118	719	926
Yarmouth	20	77	32

Survey of Peripheral Cancer Clinic in Sydney, Nova Scotia

Student	Caroline Hamm, BA,BEd
Supervisors	R. MacCormick, MD,FRCPC O. Wong, MD,FRCPC
Funding	Dalhousie Medical Student Research Fund CTRFNS

This project was carried out during the summer of 1990 and won first place in the Faculty Summer Research Competition.

In 1989, a peripheral medical and radiation oncology clinic was established in Sydney, Nova Scotia, a city with a catchment population of over 100,000. The clinic was set up under the direction of a Sydney oncology team and the CTRFNS in January 1989. It was felt that the clinic needed to be evaluated both in terms of economic feasibility and in terms of impact on the quality of life. This was the first peripheral clinic of its kind in Nova Scotia, i.e. with medical and radiation oncology. The chronic and terminal nature of cancer demands that a study of cancer clinics include a quality of life assessment as well as an economic one. There is little literature available on studies of peripheral cancer clinics especially those considering the cost benefits of such a clinic. Studies such as these are necessary in order to "assure the most purposeful allocation of the scarce resources without wasting them unnecessarily". In addition to this, appropriateness of health services needs to be evaluated on a regular basis.



A peripheral cancer clinic in Sydney, Nova Scotia was evaluated in terms of quality of life and economic feasibility. Support for the clinic was found among all participants in the clinic. Rather than being an economic cost, the establishment of the clinic was found to result in a substantial savings of over $400,000 annually. Improved convenience translated into improved patient compliance. The following recommendations resulted from the present study:

- The position of a full time on-site oncologist is warranted and the search to fill this position should be continued.
- Extension of clinic hours, either through longer or more frequent clinics should be sought.
- Inservices or pamphlets should be provided in order to increase awareness among the Cape Breton medical community.
- Funding for the CT scanner should be reviewed in order to accommodate the increased use which results from the clinic.

This clinic can be used as a model for the establishment of other clinics in Nova Scotia as communities begin to demand them.

- **Publications**
- **Presentations**
- **Committee Work**
- **Honours And Awards**

Publications

1. Abdo A, Jeffrey J, Tompkins M: The Value of Age as a Prognostic Factor in Cervical Carcinoma. Abstracts of the 45th Annual Meeting SOGC, June 1989.

2. Aldrich JE, Filbee JF, Tompkins MG: Flexible Applicators for Gynecology: Early Clinical Results. Brachytherapy 2, Ed. Mould. Nucletron, Netherlands, 1989.

3. Aldrich JE, Pass B: Determining Radiation Exposure from Nuclear Accidents and Atomic Tests using Dental Enamel. Year Book of Nuclear Medicine, 1989.

4. Aldrich JE, Berry JA, Andrew JW: The Use of Digitized Port Films in the Assessment of New Treatment Modalities. Medical Dosimetry 15, 121:125, 1990.

5. Aldrich JE: Development of a Hospital Radiation Emergency Protocol. Postgraduate Radiology 1990.

6. ldrich JE, Scallion PL, Pass B: An Analysis of Paramegnetic Centres in Irradiated Dentin using Spin Resonance. Calcif. Tissue Int., 46, 166:168, 1990.

7. Andrew JW, Aldrich JE, Hale ME, Berry JA: A Video Based Patient Contour Acquisition System for the Design of Radiotherapy Compensators. Medical Physics 16, 425:430, 1989.

8. Caincross JG, Eisenhauer EA, MacDonald DR, Rathbone MP, Moore MJ, Sawka CA, MacCormick RE, Kerr IG: Phase II Study of Trimetrevate in Patients with Recurrent Anaplastic Glioma. Cdn. J. Neuro Sci., 17:21-23, 1990.

9. Campbell DR, Jackson SA, et al.: A Comparative Study of the Nephrotoxicity of loherul, lopomidol and loxaglate in Peripheral Angiography. J. Can. Assoc. Radiology 41:133, 1990.

10. Dach JL, Jackson SA: Experience with an MS-DOS Computer for Nuclear Medicine Image Acquisition and Processing. Euro. J. Nucl. Med. 16:87, 1990.

11. Djordjevich A, Bonham DJ, Hussein EMA, Andrew JW, Hale ME: Optimal Design of Radiation Therapy Compensators. Medical Physics 17:397, 1989.

12. Evans B (ed.): Contribution by MacCormick R: Acronyms in Chemotherapy. E.L. Lilly Canada Inc., 5th Edition, 1990.

13. Fine S, MacCormick R, Solvet S, Wong A.: Leucovorin plus 5- FU: Introducing a Breakthrough Regimen in the Treatment of Advanced Colorectal Cancer. (Educational Video), June 1990.

14. Fitzpatrick PJ: Tumours of the eyelids and their treatment by radiotherapy. In: Alberti W, Sagerman RH eds. Radiotherapy of Intraocular and Orbital Tumours. Berlin: Springer-Verlag, 1989.

15. Grant P, Jeffrey J, Fraser R, Tompkins M, Filbee J, Wong O: Pelvic Radiation Therapy for Gynaecologic Malignancy in Geriatric Patients. Gynaecologic Oncology, 33:185, 1989.

16. Grimshaw R, Tupper W, Jeffrey J, Fraser R: The Prognostic Value of Peritoneal Cytology in Endometrial Carcinoma. Gynaecologic Oncology, 36:97, 1990.

17. Gospodarowics MK, Sutcliffe SB, Clark RM, Dembo AJ, Patterson BJ, Fitzpatrick PJ, Chua T and Bush RS: Outcome analysis of localized gastrointestinal lymphoma treated with surgery and postoperative irradiation. Int.J. Radiat. Oncol. Biol. Phys., Vol. 19: 1351-1355, 1990.

18. Hirsch G, Bodurtha A: Clinical Trials Research at CTRFNS. N.S. Medical Journal, 87-88, 1989.

19. Iscoe N, Eisenhauer E, Bodurtha A: Phase 2 Study of trimetrexate in malignant melanoma: A NCIC Clinical Trials Group Study, INVEST New Drugs, 8, 121-123, 1990.

20. Jeffrey J, Zayid I, Givner M, Trott M: Gestational Trophoblastic Disease Registry. The Nova Scotia Medical Journal, 69:131, 1990.

21. Jeffrey J, Condyloma: the STD of the 90's. The Canadian Journal of CME, 29-10, 1990.

22. Jeffrey J, MacCormick R, Kerr I, Buckman R, Trott M, MacDonald M: 5-Fluorouracil (FU) and Folinic Acid (FA) as Salvage Therapy in Heavily Pretreated Ovarian Cancer (OV.Ca). Proceedings of ASCO, Vol. 10, 1991.

23. Liu FF, Maki E, Payne D, Fitzpatrick PJ: A management approach to incompletely excised basal cell carcinoma's of skin. Int. J. Radiat. Oncol. Biol. Phys., Vol. 20, No. 3, March 1991.

24. Lotocki R, Jeffrey J, Stuart G, Rovertson I: Symposium - Endometrial Adnocarcinoma. Canadian Journal of OB/GYN, 1990.

25. MacCormick R, Covert A, Gross M: Primary Bony Involvement in Hodgkin's Disease, Canadian Medical Association Journal, 140:9, 1059-1060, May 1989.

26. MacCormick R, Yoon M: Carcinoid Tumour in Nova Scotia - A Ten Year Experience. Nova Scotia Medical Journal, 68:3, 87- 88, 1989.

27. MacCormick R: Clinical Trials Research at the Cancer Treatment and Research Foundation of Nova Scotia. Nova Scotia Medical Journal, 68:3, 87-88, 1989.

28. MacCormick R, Sharma K, Colwell B: A Practical Approach to Screening for Common Malignancies in Family Practice. Proceedings of the 24th Conjoint Scientific Assembly, College of Family Physicans of Canada, October 1989.

29. MacCormick R, MacKinnon K: "Decision Making in Cancer Treatment: Age and Socio-economic Status as Independent Variables. Medical Teacher, 12:314, 353-355, 1990

30. Miller RA, Aldrich JE: Radioactive Gold Ring Dermatitis. J. American Academic of Dermatology, 23, 360-62, 1990.

31. Nasser J, Attia EL: A Conceptual Approach to Learning and Organizing the Surgical Anatomy of the Skull Base. J. Otolaryngology 119:2, 1990

32. Pavlin CJ, Japp B, Simpson ER, McGowan HD, Fitzpatrick PJ: Ultrasound determination of the relationship of radioactive plaques to the base of choroidal melanomas. Opthalmology 96: 538-542, 1989.

33. Quirt IC, Shelley WE, Pater J, Bodurtha AJ: Improved Survival in Patients with Poor Prognosis Malignant Melanoma Treated with Adjuvant Levamisole. A Phase III Study by NCI of Canada Clinical Trials group. J. Clinc. Oncol., 9:729- 735, 1991.

34. Ross JB, Tompkins MG: Cutis Verticis Gyrata as a Marker of Internal Malignancy. Arch Dermatol, 125:434-435, 1989.

35. Walsh NM, Bodurtha AJ: Auerbach's Myenteric Plexus - A site of Origin for Gastrointestinal Stromal Tumors in VonRecklinghausen's Neurofibromatosis. Patholo. Lab. Med., 114:522-525, 1990.

36. Woods E, Iles S, Jackson S: Comparison of Scintigraphic Diagnostic Criteria in Suspected Pulmonary Embolism. J. Can. Assoc. Radiology 40:194, 1989.

Presentations
(In-house not included)

Clinical Trials

Hirsch G, Nolan M:

1. Tumour Measurement in Clinical Trials. NCIC Spring Meeting for Data Managers and Nurses, April 1989 (poster).
2. Cancer Incidence in Nova Scotia. NCIC Spring Meeting, April 1990 (poster).

Medical Physics

Aldrich JE:

3. A Computerized Digital Video-System for Contour Acquisition and Compensator Design. IPSM Sympoisum, London, England, June 1989.
4. Development of a System for Ultrasound Surgery. R.S.N.A., Chicago, November 1989.
5. Measurement of Radiation Using EPR of Dental Enamel, Canadian Radiation Protection Association Annual Meeting, Saint John, N.B., June 14, 1990.
6. Comparison of local control and morbidity with manual and remote afterloading. International Selectron Users Meeting, Florence, September 1990 (presentation and poster).
7. Personnel dose reduction using remote afterloading. International Selectron Users Meeting, Florence, September 1990 (poster).
8. Patient repositioning using surface topography. European Society for Radiation Therapy and Oncology Montecatini, Italy, September 1990.
9. A prototype ultrasound thermography system. ASTRO Annual Meeting, Miami, October 1990.
10. Radiobiology and Risk. CME, TUNS, Halifax, N.S., November 1990.
11. Ultrasound Surgery, NSAR, Halifax, N.S., October 1989.

Andrew JW:

12. A Computerized Digital Video System for Contour Acquisition and Compensator Design. World Congress on Medical Physics and Biomedical Engineering, San Antonio, Texas, August 1989.

13. Optimal Design of Radiation Compensators. Canadian Organization of Medical Physics Annual Meeting, Montreal, 1990.

Berry J:

14. Surface topography for patient repositioning, AAPM 32nd Annual Meeting, St. Louis, July 22-26, 1990.

Daniels C:

15. Computer Program to Audit Mammography - An Update. Atlantic Society of Radiologists, Halifax, N.S., September 1989.
16. Compensating Filters in Diagnostic Radiology. Atlantic Society of Radiologists, Halifax, N. S. September 1989.
17. Computerized Audit of a Diagnostic Mammography Practice. Canadian Association of Radiologists, Quebec City, Quebec, October 1989.
18. Computers - an extension to mammography quality control. Medical Physics Department, Reichman Research Laboratories, U of T, March 1991.

Hale ME:

19. The use of Expert System Software in Medical Linear Accelerator Troubleshooting. Eastcan/OCTRF, Ottawa, Ontario, 1989.

Jackson S:

20. The Evolution of Computers in Medical Imaging. Robarts Research Centre Seminar, London, Ontario, June 1989.
21. Factors of Variability in Nuclear Cardiology. St. Joseph Hospital, London, Ontario, June 1989.
22. Development of a PC-Based Videodosimetry System for the Evaluation of Coronary Artery Stenosis. Canadian College of Physicists in Medicine/Division of Medical and Biological Physics Scientific Meeting, London, Ontario, June 1989.
23. Teleradiology. Nova Scotia Society of Medical Radiation Technologists, Fall Seminar, Halifax, N.S., October 1989.
24. Telecommunications in the Medical Environment. Industry, Science and Technology Canadian Meeting, Halifax, N.S., November 1989.

Medical Staff

Bodurtha A:

25. Medicine in Review, Haematology Practical Procedures in Haematology. Dalhousie CME Program, Halifax, N.S., April 1989.
26. Benign Breast Disease, Dalhousie CME Program, Kentville, N.S., April, 1989.
27. Pancreatic Absess, Dalhousie CME Program, Fredericton, N.S., June 1989.
28. New Concepts in Benign and Malignant Breast Disease. Dalhousie CME Program, Antigonish, N.S., June 1989.
29. Office Management of Breast Disease. Dalhousie CME Program, Dartmouth, N.S., July 1989.

30. Surgical Management Changes and Quality Control Issues in Mammographic Screening. Dalhousie CME Program, Halifax, N.S., October 1990.
31. A medical audit of conservative surgery for breast cancer. Surgical Section, Medical Society of Nova Scotia, Halifax, N.S., November 1990.

Ege G:

32. Radiation and Pain Management, Dalhousie CME Program, Halifax, N.S., 1990.

Filbee J:

33. Iatrogenic Skin Cancer in Patients with Pulmonary Tuberculosis, CARO, Royal College of Physicians and Surgeons, Toronto, September 1990.

Fitzpatrick P:

34. Skin cancer and its treatment by radiotherapy. Loyola University, Chicago, Illinois, June 1989.
35. Radiotherapy for tumours of the eye and orbit. Loyola University, Chicago, Illinois, June 1989.
36. Paget's and Extra-Mammary Paget's Disease. International Congress of Radiation Oncology, Paris, France, July 1989.
37. Teletherapy in the Treatment of Choroidal Melanoma. International Congress of Radiation Oncology, Paris, France, July 1989.
38. Non-Epidemic and Epidemic Kaposis Sarcoma. AARO International Congress of Radiation Oncology, Paris, France, July 1989.
39. Chairman, Session on Dermatologic Oncology, International Congress of Radiation Oncology, Paris, France, July 1989.
40. Kaposis Sarcoma. Canadian Association of Radiation Oncologists, Edmonton, Alberta, September 1989.
41. Radiation retinopathy. Canadian Association of Radiation Oncologists, Edmonton, Alberta, September 1989.
42. General Introduction to Oncologic Disorders. Pharmacy Refresher Course, Dalhousie University College of Pharmacy, Moncton, New Brunswick, October 1989.
43. Wide field radiotherapy in the treatment of bone metastases. Atlantic Provinces Orthopaedic Association, Fredericton, New Brunswick, October 1989.
44. Oncology and philosophy of management. Dalhousie CME Program, Digby General Hospital, Digby, N.S., November 1989.
45. An oncologic philosophy and the reorganization of the Cancer Treatment and Research Foundation of Nova Scotia. Dalhousie CME Program. New Waterford Consolidated General Hospital, New Waterford, N.S., January 1990.
46. An oncologic philosophy and the reorganization of the Cancer Treatment and Research Foundation of Nova Scotia. Dalhousie CME Program. Northside General Hospital, North Sydney, N.S. January 1990.
47. Carcinoma of the lip and acute epithelioma. American Radium Society, Scottsdale, Arizona, April 1990.
48. Freudian aspects of oral cancer. Canadian Association of Radiation Oncologists, Toronto, Ontario, September 1990.
49. Cosmesis and function of eyelids following radiotherapy in the treatment of eyelid tumours. American Society for Therapeutic Radiology and Oncology, Miami, Florida, October 1990.

50. The reorganization of the cancer services in Nova Scotia, Dalhousie CME Program, Glace Bay General Hospital, Glace Bay, N.S., January 1991.
51. Skin cancer and it's treatment by radiotherapy. University of Pennsylvania, Philadelphia, Pennsylvania, March 1991.
52. Half body irradiation - a systemic treatment for cancer. University of Pennsylvania, Fox Chase Cancer Centre, Philadelphia, Pennsylvania, March 1991.
53. An introduction to oncology. Annual Technical Workshop, Nova Scotia Health Record Association, Halifax, N.S., March 1991.

Fraser R:

54. Gestational Trophoglactic Disease. University of Sherbrooke, Montreal, May 1989.
55. The Role of Gynaecologists, Gynaecologic Oncologists Within Gynaecologic Oncology. University of Sherbrooke, Montreal, May 1989.

Jeffrey J:

56. Gestational Trophoblastic Disease - The Maritime Experience. University of Calgary, April 1989.
57. HPV and the Lower Genital Tract. University of Calgary, April 1989.
58. Current Concepts in the Management of Endometrial Hyperplasia/Neoplasia. Workshop of the 45th Annual Meeting of the SOGC, Quebec City, June 1989.
59. Condylomata: The STD of the 90's. CME Infectious Disease Course for Family Physicians, Dalhousie University, January 1990.
60. Vulva Lesions and Their Management. Obstetrics and Gynaecology CME Update for Specialists, Dalhousie University, February 1990.
61. Human Papilloma virus and the Lower Genital Tract. Family Physicians of Canada, New Brunswick Chapter Annual Meeting, Moncton, N.B., March 1990.
62. Gestational Trophoblastic Neoplasia - What's New in Diagnosis and Treatment. Memorial Day Conference, Queen's University, Kingston, Ontario, November 1990.
63. A Practical Approach to the Pelvic Mass. CME Family Medicine Residents, Dalhousie University, January 1991.

MacCormick R:

64. Carcinoid Tumour Treated with Somatostatin Analogue. European Congress on Clinical Oncology, London, England, September 1989.
65. The Role of Intensive Chemotherapy in Bone Marrow Transplantation in the Treatment of Adult Ewing's Sarcoma. European Congress on Clinical Oncology, London, England, September 1989.
66. Management of Metastatic Breast Cancer. Atlantic Provinces Orthopedic Society, Fredericton, N.B., October 1989.
67. Update on the Role of Chemotherapy in Cancer Treatment. Dalhousie Pharmacy Register Course, Moncton, N.B., October 1989.
68. Controversies in General Medicine and Approach to Cancer of Unknown Origin. Canadian International Medicine Society, St. Andrew's, N.B., August 1990.
69. Oncology Updates. Dalhousie CME Program, Antigonish and Liverpool, N.S., October 3, 1990.
70. Cancer Screening. 24th Annual Conjoint Scientific Session for Family Physicians, Halifax, N.S., November 1989.

71. Keynote Address. 40th Anniversary Session of Cape Breton Cancer Society, Sydney, N.S., June 1990.
72. An Historical and Current Overview of Chemotherapy. Canadian Association of Hospital Pharmacists, Halifax, N.S., November 1990.

Wong F:

73. A Study of Adenocystic Carcinoma during a 10-Year Period. Presented with Dr. W. Redmond at Canadian Society of Otolaryngology, Toronto, June 1989.

Nursing

Butler L:

74. Primary Nursing. Annual Conference of Canadian Association of Nurses in Oncology, Halifax, N.S., September 1989.
75. Haematopoietic System - The Basics in Treatment of Cancer. Victoria General Hospital, Halifax, N.S. for Telemedicine Canada, February 1990.
76. Interferon Lecture. Schering Canada, Hamilton, London, Winnipeg, November 1989.

Sullivan V:

77. A Friend for Carcinoid - Somatastatin. Annual Conference of Canadian Association of Nurses in Oncology, Saskatoon, Saskatchewan, September 1990.

Joint Presentations:

78. Stewart M, MacAskill R: The Role of Nurses within CTRFNS. Registered Nurses Association Annual Meeting, Halifax, N.S., June 1989.
79. Butler L, Sullivan V: Narcotic Analgesia: A Second Consideration. Annual Conference of Canadaian Association of Nurses in Oncology, Halifax, N.S., September 1989.
80. Sullivan V, Woods L, Cake A, Grant B: Chemotherapy. Dalhousie CME Program, Halifax, N.S., February 1990.
81. Sullivan V, Hirsch G: Chemotherapy and Radiotherapy Update. Oncology Update, Inservice for Community Health Nurses, Halifax, N.S., March 1990.

Radiotherapy

Edstrom H:

82. Edstrom, H.: Treatment Techniques Utilized for Head and Neck Tumours at CTRFNS. Oncology Nursing Association, Halifax, N.S., November 1989.

Joint Presentations:

83. Burgess L, Butler L: Carcinoma of the Breast. Nova Scotia Association of Medical Radiation Technologists, Halifax, N.S., May 1990.

Committees

Permanent Staff Affiliations
(In-house committees not included)

Provincial

- Andrew J: Provincial Radiation Health Advisory Committee
- Burgess L: Nova Scotia Association of Radiation Managers.
- Butler L: RNANS, Board of Directors, 1989-1990
- Butler L: Canadian Cancer Society Board of Directors, 1989-1990
- Butler L: Canadian Cancer Society Medical Advisory Committee, 1989-1990
- Butler L, Russell D, Sullivan V: Nova Scotia Oncology Nurses Association Executive Committee
- Churchill H: Cape Breton Oncology Liaison Committee
- Churchill H: Provincial Home Care Advisory Committee, 1988 -
- Cottreau G: Member of the Standard of Practice Committee for Radiation Technology formed by the N.S. Department of Health and Fitness, 1990 -
- Filbee J: Breast Screening Advisory Committee, N.S. Department of Health and Fitness, 1990 -
- Fitzpatrick P: Cape Breton Oncology Liaison Committee
- Jackson S: Chairman, Atlantic Provinces Nuclear Medicine Group, 1989-1990
- MacCormick R: Search and Survey Committee for Palliative Care Services in Nova Scotia, Halifax, N. S. 1989-1990
- Sullivan V: Canadian Cancer Society Board of Directors, 1990 -
- Sullivan V: RNANS Complaints Committee, 1989 -
- Sullivan V, Dickson J: RNANS Social Economic Welfare Committee, 1990 -
- Urquhart M: Member, NSAMRT Education Committee, 1989

National

- Aldrich J: Atomic Energy Conduct Board, Advisory Committee on Radiation Protection
- Andrew J: Registrar, Canadian College of Physicists in Medicine, 1990 -
- Butler L: Member, National Cancer 2000 Provincial Working Group
- Churchill H: Member, National Cancer 2000 Provincial Working Group
- Churchill H: National Conference on Community Cancer Care Planning Committee
- Croucher T: Member of National Working Group, Data Quality and Standardization, Canadian Cancer Registry
- Daniels C: Member, National Health and Welfare Working Group on Extracorperal Lithotropsy
- Fitzpatrick P: University of Guelph, Ontario Veterinary College Oncology Committee
- Fitzpatrick P: Canadian Association of Radiation Oncologists, Chairman of the Economics Committee, 1989 -
- Fitzpatrick P: Canadian Association of Radiation Oncologists, Archivist, 1987 -
- Fitzpatrick P: External Review Committee Member, Department of Radiation Oncology, British Columbia Cancer Agency, Vancouver, B.C., June 1990

- Garrison J: Member, Council on Education, Canadian Association of Medical Radiation Technologists (CAMRT) and Council of Education, Princess Margaret Hospital and Affiliate Clinics Liaison Committee
- Hirsch G: Steering Committee NCIC Nurses and Data Managers
- Jackson S: Member, Education Accreditation Board for the Canadian Medical Association

International

- Fitzpatrick P: Collaborative ocular melanoma study (COMS), National Eye Institute, Washington, D.C., USA - permanent member COMS Executive, 1986 -
- Jackson S: Chairman, Physics Committee for the World Federation of Nuclear Medicine and Biology Meeting, Montreal 1990

Honours and Awards

Fitzpatrick P:

Visiting Professor:

June 1989	Loyola University, Chicago, Illinois
March 1991	University of Pennsylvania, Philadelphia
March 1991	Fox Chase Cancer Centre, Philadelphia, Pennsylvania
February 1989	Appointed Chairman of the National Board of Modern Medicine of Canada
September 1989	Special award from the University of Guelph, Ontario for "the generous contribution of knowledge and time" in the development of oncology at the Onario Veterinary College.
1989, 1990	Award of Excellence, Collaborative Ocular Melanoma Study, National Eye Institute, Washington
June 1990	Elected Life Fellow of the Academy of Medicine, Toronto

Fraser R:

Visiting Professor:

May 1989	University of Sherbrooke, Montreal

Jeffrey J:

Visiting Professor:

April 1989	University of Calgary, Calgary

MacCormick R: ALPHA OMEGA ALPHA, Honour Medical Society

Hamm C:

4th Year Medical Student:

November 1990	Student Summer Research Competition, 1st place. Dalhousie University Faculty of Medicine. Supervisors - R. MacCormick and O. Wong.

Cancer Treatment And Research Foundation Of Nova Scotia

Financial Statements

Year Ended March 31, 1991
Auditor's Report

FINANCIAL STATEMENTS

Year Ended
March 31, 1991

AUDITOR'S REPORT

To the Chairman and Members
of the Cancer Treatment and
Research Foundation of Nova Scotia

I have examined the balance sheet of the Cancer Treatment and Research Foundation of Nova Scotia as at March 31, 1991 and the statements of general fund revenues and expenses and continuity of special fund for the year then ended. These financial statements are the responsiblity of the Foundation's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Foundation as at March 31, 1991 and the results of its operations and the continuity of special funds for the year then ended in accordance with the accounting policies stated in Note 2 to the financial statements.

O. P. Cormier

O. P. Cormier, F.C.A.
Auditor General

Halifax, Nova Scotia
June 21, 1991

BALANCE SHEET

As at March 31, 1991

CURRENT ASSETS

General Fund	1991	1990
Accounts receivable	$ 271,293	$ 319,409
Employee advances	6,477	8,658
Prepaid expenses	137,609	327,794
Due from Special Fund	302,758	351,803
	718,137	1,007,664
Claims submitted to Department of Health and Fitness (Note 3)	1,092,514	859,346
	$ 1,810,651	$ 1,867,010

Special Fund		
Cash	$ 12,733	$ 50,381
Short term investments	539,200	642,837
Accounts receivable	238,047	271,341
	$ 789,980	$ 964,559

LIABILITIES AND FUND BALANCES

General Fund	1991	1990
Bank overdraft	$ 455,324	$ 176,033
Accounts payable and accruals	1,050,327	1,351,677
Unearned income	305,000	339,300
	$ 1,810,651	$ 1,867,010

Special Fund		
Due to General Fund	$ 302,758	$ 351,803
Fund Balances		
Radiation Oncology Trust Fund	4,287	4,129
Tumor Clinic Research Fund	2,791	2,791
Trial Funds	(94,627)	(28,772)
Restricted Funds (Note 3 & 4)	165,452	285,505
Unrestricted Funds	409,319	349,103
	487,222	612,756
	$ 789,980	$ 964,559

GENERAL FUND Statement Of Revenues And Expenses

For the Year Ended
March 31, 1991

	1991	1990
Revenues		
Nova Scotia Department of Health and Fitness		
Insured services	$ 5,160,000	$ 4,303,200
Capital equipment	721,436	88,110
Hospital services	112,140	965,928
Reciprocal billings	116,213	126,837
Non-insured services	48,860	61,507
Other	12,180	10,040
	6,170,829	5,555,622
Expenses		
Nursing services	916,211	919,452
Technical services	651,633	568,147
Laboratory services	219,050	126,136
Radiation oncology services	1,031,143	870,596
Medical oncology services	437,739	393,712
School services	46,547	37,675
Medical physics	905,421	813,182
Health records	703,435	587,863
Clinic administration	179,831	673,104
Administration	663,498	548,192
Data processing	149,965	133,471
Research and development	111,015	2,072
Capital equipment	744,084	88,110
Epidemiology services	54	31,804
	6,759,626	5,793,516
Excess of expenses Over revenues	$ 588,797	$ 237,894

CONTINUITY OF SPECIAL FUND

For The Year Ended
March 31, 1991

	Radiation Oncology Trust Fund	Tumor Clinic Research Fund	Trial Funds	Restricted Funds (Note 4)	Unrestricted Funds	Total 1991	Total 1990
Balance, beginning of year	$ 4,129	$ 2,791	$ (28,772)	$ 285,505	$ 349,103	$ 612,756	$ 392,127
Add: Donations	—	—	—	—	27,627	27,627	34,514
Excess MSI Payments	—	—	—	172,605	—	172,605	211,810
Trial Funds	—	—	20,404	—	—	20,404	44,623
Investment Income	580	—	—	—	82,016	82,596	66,136
Other	—	—	—	—	2,300	2,300	—
	580	—	20,404	172,605	111,943	305,532	357,083
Less: Clinical research	—	—	86,259	—	—	86,259	66,405
Research grant	—	—	—	—	25,309	25,309	19,905
Special projects	—	—	—	—	26,164	26,164	7,035
Bad debt expense	—	—	—	11,731	—	11,731	8,112
Appeals denied (Note 3)	—	—	—	280,356	—	280,356	30,966
Other expense	422	—	—	571	254	1,247	4,031
	422	—	86,259	292,658	51,727	431,066	136,454
Balance, end of year	$ 4,287	$ 2,791	$ (94,627)	$ 165,452	$ 409,319	$ 487,222	$ 612,756

NOTES TO FINANCIAL STATEMENTS

March 31, 1991

1. **Authority**

The Cancer Treatment and Research Foundation of Nova Scotia was established by the Cancer Treatment and Research Foundation Act which was proclaimed on November 25, 1980.

The objectives of the Foundation are to operate multidisciplinary facilities for the diagnosis and treatment of cancer, research into problems relating to cancer, and to offer related assistance, education and training.

2. **Accounting Policies**

The financial statements have been prepared in accordance with generally accepted accounting principles modified by the following:

a. Equipment
Equipment purchases are expensed in the year of acquisition.

b. Revenues
No accrual is made for donation revenues pledged but not received.

c. Final Settlements
The Foundation records each year's operating surplus or deficit as Claims Submitted to the Department of Health and Fitness (DoHF). Any adjustment arising from the DoHF final settlement process is charged to the Restricted Funds in the year the adjustment is determined.

3. **Claims Submitted to the Department of Health and Fitness**

An excess of expenses over revenues in the General Fund may be recoverable from the Province of Nova Scotia. An excess of revenues over expenses reduces the amount claimed from the Province. This account balance represents the net accumulated deficits and surpluses being claimed by the Foundation.

During the year, the Foundation determined that amounts which had been recorded as receivable from the Department of Health and Fitness were not likely to be collected. These amounts, which related to the years 1986 through 1988, totalled $280,356 and have been written off to the Restricted Equity of the Special Funds.

Details of the amounts outstanding at March 31, 1991 are as follows:

	1991	1990
Deficit 1985-86	$ —	$ 51,805
Deficit 1986-87	—	118,299
Deficit 1987-88	—	110,252
Surplus 1988-89	(32,014)	(32,014)
Equipment Claim 1989-90	—	253,110
Equipment Claim 1990-91	391,437	—
Retroactive funding 1989-90	—	120,000
Deficit 1989-90	144,294	237,894
Deficit 1990-91	588,797	—
	$ 1,092,514	$ 859,346

4. **Restricted Funds**

Certain doctors have entered into an agreement with the Foundation that permits them to provide personal medical services and receive Medical Services Insurance payments to a set limit. MSI payments received by the doctors, in excess of agreed upon amounts, are remitted to the Foundation. These amounts are accounted for as a special fund and payments from it must be approved by the Department of Health and Fitness.

5. **Commitments**

On November 15, 1989, the Foundation made a commitment of $550,000 for the purchase of a simulator which will assist in providing more effective radiation treatment to patients. To March 31, 1991, $495,000 has been paid to the supplier of this equipment. The balance of $55,000 is due upon installation.

The Foundation is liable at fiscal year end for vacation pay earned by its employees but not yet paid. Vacation pay is funded in the year of payment by the Department of Health and Fitness to the extent that it forms part of the Foundation's overall net cost of shareable operations. The amount of liability and the offsetting funding at March 31, 1991 estimated to be $121,000 (1990 - $100,000), is not reflected in these financial statements.

6. **Public Service Superannuation Fund**

Most full time permanent employees of the Foundation are entitled to receive pension benefits pursuant to the provisions of a pension plan established under the Province of Nova Scotia Public Service Superannuation Act. The plan is funded by equal employee and employer contributions. The employer's contributions are included in the Foundation's operating expenses. The Public Service Superannuation Fund is administered by the Provincial Department of Finance. The Foundation is not responsible for any unfunded liability.

Annual Report

Provincial Cancer Registry

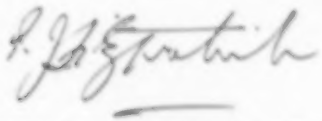
January 1, 1990 to December 31, 1991

Nova Scotia Cancer Registry Report

The registry records the incidence of different cancers by age and sex in the counties of Nova Scotia. The incidence of cancer is increasing because of the aging population and unfortunately we are only able to control about one-half of all malignancies. The costs to the health services are enormous and escalating, and we need to expand the registry in order to record data regarding investigation, intervention, and final outcome. The major thrust in oncology in the future must however be to reduce the incidence of cancer through prevention and when this is not possible by early diagnosis at a time when tumours can be cured.

Cancer epidemiology is now a major division of oncology and an essential part of any cancer organization. Descriptive epidemiology is the study of the frequency and the distribution of cancers based on statistics for incidence, mortality and morbidity. These frequencies vary by age and sex and may be different in various geographical locations. Analytical epidemiology is the study of different risk factors such as an association with tobacco or alcohol, climatic and occupational exposures. Once these factors are identified it is possible to develop programs to reduce the incidence of cancers by the suppression or reduction of these risk factors. Secondary prevention provides for the screening and appropriate treatment for premalignant lesions and these measures are now routinely employed in the management of cancers including those of the skin, cervix, and colon. Early diagnosis is able to detect some cancers at a curable stage and this is the basis for the mammographic screening programs. Large scale campaigns are in place in many parts of the world and being developed here in Nova Scotia.

The efficacy of prevention is well demonstrated by results from Europe. In the United Kingdom there is a commencing decrease in the incidence and mortality of lung cancer for the last 20 years whereas in France the incidence and mortality have not changed and where the campaigns have been less active. By the year 2000 the National Cancer Institute in the United States has estimated that there could be a decline in cancer mortality of 25-50% if primary prevention and special attention to smoking and diet was undertaken and there was universal screening for cervical and breast cancers. The new computer system being developed for the CTRFNS will go a long way to provide better and more useful information in the battle against cancer.



P. J. Fitzpatrick, MB, BS, FRCPC, FRCR
Physician-in-Chief
CTRF of Nova Scotia

1991 January

Guide to 1989 Cancer Incidence Report

The changes to this year's report were co-ordinated by the members of the N.S. Cancer Registry Committee, which avails of the services of representatives of the Department of Health, consumer representation, part-time registry epidemiologist, physician resource and registry staff.

Format and Changes in the 1989 Tables

In 1990, the cancer clinic at the CTRF implemented Tumour Site Groups. In conjunction with this, it was felt to be a relevant time to reformat the tables entitled "Primary Site By Age Groupings — Males and Females 1989" to reflect these broad site groups.

Tumour sites are now grouped into areas of the body; in previous reports these tables listed sites in order by diagnostic code (lowest to highest). In the 1989 report the diagnostic code column has been removed.

In these two tables as well, age adjusted rates have been calculated for those sites having a case volume, 20 or greater. Previous age adjusted rates were only done for specific sites.

As in previous years, all age adjusted calculations, except for Total Incidence, Male and Female, the 80-90 and 90 + age groups have been combined.

1989 Nova Scotia population figures were used for all incidence rate calculations.

Our ever present goal of ensuring Nova Scotia's cancer data completeness and quality was facilitated by the continuing support of our three main sources of cancer registration.

— Health Record Departments
— Pathology Departments
— Provincial Vital Statistics Department

I would like to acknowledge the efforts of our three permanent Registry staff:

— Karen Starratt, Tracey Robertson and Rosalee Walker

along with the expertise provided by our two part-time epidemiologists, Grace Johnston and Linda Dodds. They have prepared this report so that it is available for referencing by the health care workers and people of Nova Scotia, as well as other Canadian Cancer Registries and Statistics Canada.

The Nova Scotia Cancer Registry continued as the site for Health Record Science students Epidemiology Practicum; the topics covered have had mutually beneficial results.

In conjunction with my permanent position as Director of the clinic Health Record Department, I have been Acting Director of the Nova Scotia Cancer Registry since June of 1989. I will continue in this position until December of 1991, at which time I hope a permanent Director will be appointed.

If we are to move ahead in the 1990's our provincial Registry needs the services of a full time Director and Epidemiologist in this coming year to set the path for cancer statistics in this province and to provide cancer data in stride with the rest of Canada.

Thelma Croucher
Acting Director, N.S.
Cancer Registry

PRIMARY SITES BY AGE GROUPING - MALES 1989
(EXCLUDING NON-MELANOMA SKIN & INSITU)

TUMOR SITES	AGE BREAKDOWN											TOTAL	INCIDENCE PER 100,000	AGE ADJUSTED RATE **
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL			
HEAD & NECK ; ENT														
Lip				1			8	9	3	1		22	5.0	4.2
Tongue				1	3	4	3	2	1			14	3.2	
Mouth Other				1	2	5	6	6	1	1		22	5.0	4.5
Pharynx - Tonsil				1	4	3	12	1	1	1		23	5.3	4.8
Larynx					2	12	16	7	1			38	8.7	8.2
Paranasal Sinuses						1	2	4				7	1.6	
OCULAR & ORBITAL														
Eye-Lacrimal Gland						2		1			1	4	0.9	
GASTROINTESTINAL														
Stomach			1	1	5	11	15	24	12			69	15.8	13.6
Small Bowel				1			5	1	1			8	1.8	
Colon - Rectum				1	16	35	71	76	54	6	1	260	59.7	50.6
Liver - Gallbladder						2	5	13	1			21	4.8	4.0
Pancreas				1	5	9	19	19				53	12.2	10.8
Peritoneum					1	1	3	1	5			11	2.5	
RESPIRATORY & CARDIOVASCULAR														
Lung-Pleura				1	18	65	138	162	43	2		429	98.5	85.3
Mediastinum				1								1	0.2	
Esophagus	1					4	7	10	3			25	5.7	5.0
BREAST						1						1	0.2	
MELANOMA		1	2	2	4	8	6	7	1			31	7.1	6.6

PRIMARY SITES BY AGE GROUPING - MALES 1989
(EXCLUDING NON-MELANOMA SKIN & INSITU)

TUMOR SITES	AGE BREAKDOWN											TOTAL	INCIDENCE PER 100,000	AGE ADJUSTED RATE **
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL			
URINARY														
Kidney - Ureter				3	9	9	18	23	8		1	71	16.3	13.9
Bladder				2	5	13	38	46	25	3		132	30.3	25.5
MALE GENITAL														
Prostate					1	15	86	160	73	5	1	341	78.3	63.3
Testis		2	7	7	2		2	1		1		22	5.0	4.9
Penis				1	2	1	3	1	1			9	2.1	
NERVOUS SYSTEM														
Brain	1	1	4	6	6	4	4	8				34	7.8	7.2
Spinal Cord													0.0	
ENDOCRINE														
Thyroid					1	2	1	1				5	1.1	
Endocrine - Other	1					1						2	0.5	
BONE & CONNECTIVE TISSUE		1	6	3	4	1	4	3	1		1	24	5.5	4.9
LYMPHATIC & HEMATOPOIETIC														
Bone Marrow	3	1	3	2	10	8	21	17	3	3	2	73	16.8	14.6
Lymph Nodes		1	7	3	5	11	17	8	5		1	58	13.3	12.2
UNKNOWN PRIMARY				2	5	7	23	27	14	1	1	80	18.4	15.3
OTHER ILL-DEFINED SITES									1			1	0.2	
TOTAL	6	7	30	41	110	235	533	638	258	24	9	1891		

** **AGE ADJUSTED RATES NOT CALCULATED FOR CANCER SITES WITH A FREQUENCY OF LESS THAN TWENTY**
(STANDARDIZED TO 1981 CANADIAN POPULATION)

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

PRIMARY SITES BY AGE GROUPING-FEMALE 1989
(EXCLUDING NON-MELANOMA SKIN & INSITU)

TUMOR SITES	AGE BREAKDOWN											TOTAL	INCIDENCE PER 100,000	AGE ADJUSTED RATE **
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL			
HEAD & NECK ; ENT														
Lip						1		1				2	0.4	
Tongue					1	1	1	2				5	1.1	
Mouth Other			1				2	4	2			9	2.0	
Pharynx-Tonsil					1	1	1	1				4	0.9	
Larynx					1	1	3	1				6	1.3	
Paranasal Sinuses			1				1	2				4	0.9	
OCULAR & ORBITAL														
Eye-Lacrimal Gland					1	2	2	1				6	1.3	
GASTROINTESTINAL														
Stomach			1	4	1	4	14	12	11	8		55	12.3	10.1
Small Bowel			1		2	1	2	2	1			9	2.0	
Colon - Rectum			2	7	8	22	66	97	58	19	1	280	62.4	51.0
Liver - Gallbladder	1					4	5	5	7	3		25	5.6	4.7
Pancreas						4	12	12	11	3	1	43	9.6	7.7
Peritoneum							1	6	1	3		11	2.5	
RESPIRATORY & CARDIOVASCULAR														
Lung-Pleura				1	18	39	74	52	14	6	1	205	45.7	40.6
Mediastinum				1								1		
Esophagus						1	2	2	1			6	1.3	
BREAST			2	25	75	83	145	135	53	8	3	529	117.8	103.0
MELANOMA			2	8	6	5	8	6	6	1		42	9.4	8.3

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

PRIMARY SITES BY AGE GROUPING -FEMALE 1989
(EXCLUDING NON-MELANOMA SKIN & INSITU)

TUMOR SITES	AGE BREAKDOWN											TOTAL	INCIDENCE PER 100,000	AGE ADJUSTED RATE **
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL			
FEMALE GENITAL														
Cervix Uteri			5	14	10	9	10	10	2	1		61	13.6	12.5
Corpus Uteri				3	6	17	28	17	5	3	1	80	17.8	15.9
Ovary		2	4	4	11	14	22	14	11	2	1	85	18.9	16.9
Other Female Genital				2	2	3	2	3	2	1		15	3.3	
URINARY														
Kidney - Ureter				3	2	8	16	15	6	1		51	11.4	9.9
Bladder					3	1	4	11	5			24	5.3	4.3
NERVOUS SYSTEM														
Brain		1	1	2	2	3	3	10	1			23	5.1	4.5
Spinal Cord													0.0	
ENDOCRINE														
Thyroid			1	5	3	4	4	1				18	4.0	
Endocrine-other													0.0	
BONE & CONNECTIVE TISSUE	2	1	1	3	2	6	4	3	5	1		28	6.2	5.8
LYMPHATIC & HEMATOPOIETIC														
Bone Marrow	2	1	4	2	1	4	14	10	7		1	46	10.2	9.0
Lymph Nodes		3	7	4	9	7	7	12	2	1	2	54	12.0	10.7
UNKNOWN PRIMARY				1	4	12	10	23	15	1	1	67	14.9	12.4
OTHER ILL-DEFINED SITES									1			1	0.2	
TOTAL	5	8	33	169	169	257	463	470	227	62	12	1795		

** AGE ADJUSTED RATES NOT CALCULATED FOR RARE CANCER SITES WITH A FREQUENCY OF LESS THAN TWENTY
(STANDARDIZED TO 1981 CANADIAN POPULATION)

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

CASES OF NON-MELANOMA SKIN & INSITU CARCINOMA FOR 1989

MALES

SITE	AGE BREAKDOWN											TOTAL
	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL	
Lip							1	1				2
Colon-Rectum					1		2	3	1			7
Larynx						1		1				2
Lung							1					1
Prostate								1				1
Skin - Non Melanoma		1	4	40	77	115	211	217	104	12	10	791
Melanoma Insitu		2	1			2	6	1			1	13
Penis & other male gen.				2								2
Bladder							1	2				3
Kidney										1		1
Eye Lacrimal Gland							1					1
TOTAL		3	5	42	78	118	223	226	105	13	11	824

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

CASES OF NON-MELANOMA SKIN & INSITU CARCINOMA FOR 1989

FEMALES

	AGE BREAKDOWN											
SITE	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89	90 +	NOT AVAL	TOTAL
Colon - Rectum					1	1						2
Skin - Non Melanoma		1	14	33	68	109	163	194	121	34	15	752
Melanoma Insitu			3	2	4		2	1				12
Breast				2	11	5	7	4	1			30
Cervix Uteri Insitu		3	70	81	18	9	4	1			3	189
Corpus Uteri				1		2						3
Other Female Genital			1	3	1	2	2	3	1			13
Bladder								2	1			3
TOTAL		4	88	122	103	128	178	205	124	34	18	1004

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

INCIDENCE OF CANCER WITHIN AGE GROUPS

(MALES)

AGE BREAK DOWN	1989	
	ACTUAL # OF CASES	INCIDENCE PER 1000
0 - 9 YEARS	6	0.1
10 - 19 YEARS	7	0.1
20 - 29 YEARS	30	0.4
30 - 39 YEARS	41	0.6
40 - 49 YEARS	110	2.0
50 - 59 YEARS	235	6.0
60 - 69 YEARS	533	16.1
70 - 79 YEARS	638	29.1
80 - 89 YEARS	258	37.0
90+ YEARS	24	28.3
AGE UNAVAILABLE	9	
TOTAL	1891	4.3
AGE ADJUSTED RATES		3.7 *
		5.3 **

* Excludes Non-Melanoma Skin & Insitu Cancers
**Includes all Cancers

(Both Standardized to 1981 Canadian Population)

INCIDENCE OF CANCER WITHIN AGE GROUPS

(FEMALES)

AGE BREAK DOWN	1989	
	ACTUAL # OF CASES	INCIDENCE PER 1000
0 - 9 YEARS	5	0.1
10 - 19 YEARS	8	0.1
20 - 29 YEARS	33	0.4
30 - 39 YEARS	89	1.2
40 - 49 YEARS	169	3.1
50 - 59 YEARS	257	6.4
60 - 69 YEARS	463	12.1
70 - 79 YEARS	470	16.2
80 - 89 YEARS	227	18.0
90+ YEARS	62	23.1
AGE UNAVAILABLE	12	
TOTAL	1795	4.0
AGE ADJUSTED RATES		3.5 *
		5.4 **

* Excludes Non-Melanoma Skin & Insitu Cancers
**Includes all Cancers

(Both Standardized to 1981 Canadian Population)

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

POPULATION TABLES BY AGE GROUPINGS

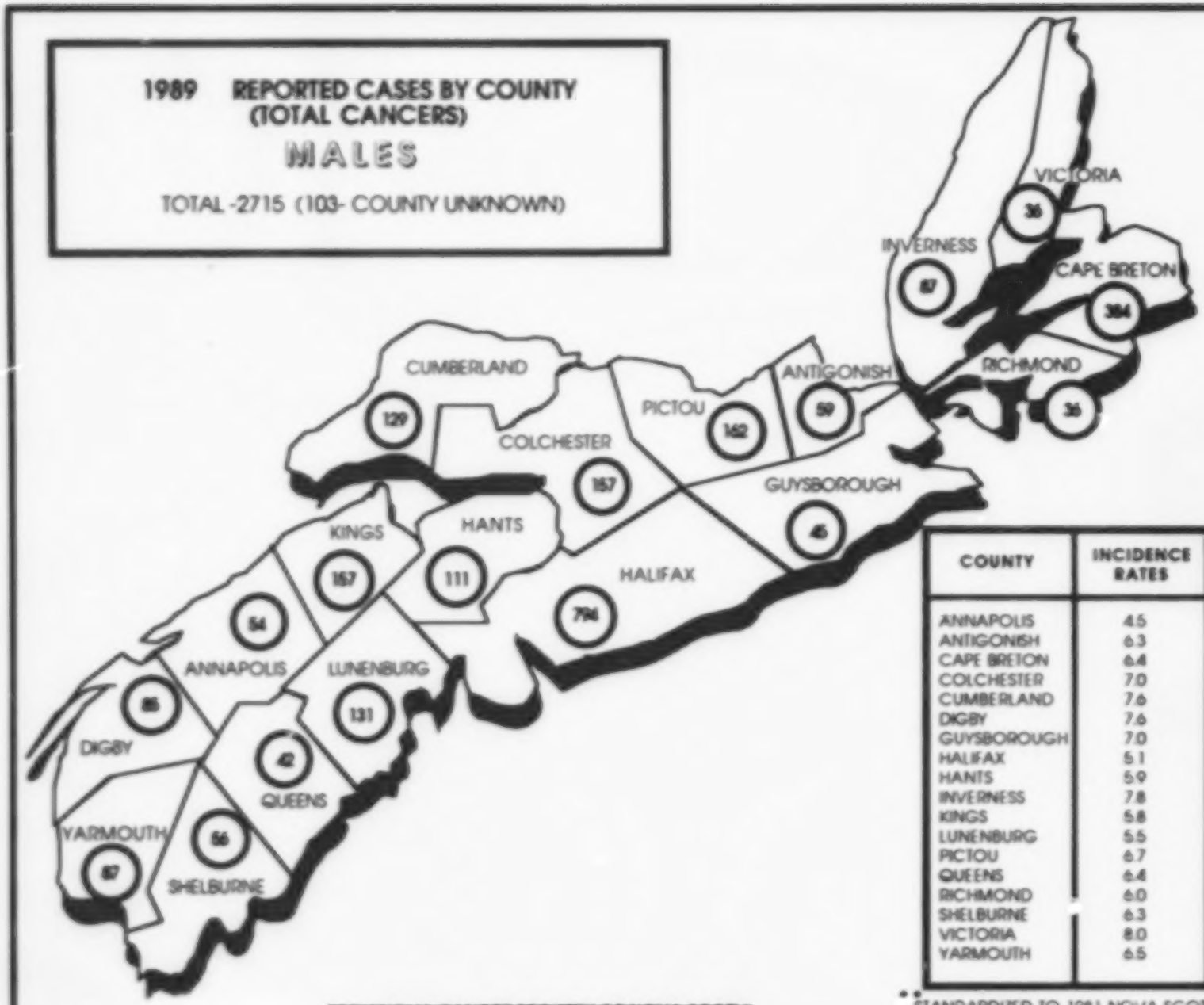
(USED IN 1989 INCIDENCE CALCULATIONS)

AGE BREAK DOWN	1989 NOVA SCOTIA			STANDARD 1 1981 NOVA SCOTIA			STANDARD 2 1981 CANADA		
	MALES	FEMALES	TOTAL	MALES	FEMALES	TOTAL	MALES	FEMALES	TOTAL
0 - 9	61,720	58,899	**120,619**	64,735	61,835	**126,570**	1,826,390	1,733,845	**3,560,235**
10 - 19	67,357	63,888	**131,245**	80,970	76,710	**157,680**	2,166,755	2,069,005	**4,235,760**
20 - 29	78,724	76,177	**154,901**	74,360	75,235	**149,595**	2,258,705	2,262,720	**4,521,425**
30 - 39	70,741	72,015	**142,756**	61,065	60,325	**121,390**	1,843,775	1,825,055	**3,668,830**
40 - 49	54,943	55,382	**110,325**	42,350	41,845	**84,195**	1,309,370	1,283,885	**2,593,255**
50 - 59	39,290	39,967	**79,257**	37,955	40,255	**78,210**	1,190,045	1,233,345	**2,423,390**
60 - 69	33,184	38,285	**71,469**	33,195	37,120	**70,315**	852,970	970,680	**1,823,650**
70 - 79	21,927	29,059	**50,986**	18,470	22,740	**41,210**	461,705	604,365	**1,066,070**
80 - 89	6,974	12,583	**19,557**	5,640	9,965	**15,605**	138,950	248,780	**387,730**
90+	849	2,680	**3,529**	830	1,855	**2,685**	19,610	43,235	**62,845**
TOTAL	435,709	448,935	884,644	419,570	427,885	847,455	12,068,275	12,274,915	24,343,190

1989 REPORTED CASES BY COUNTY (TOTAL CANCERS)

MALES

TOTAL -2715 (103- COUNTY UNKNOWN)



COUNTY	INCIDENCE RATES	AGE ** ADJUSTED RATES
ANNAPOLIS	4.5	3.6
ANTIGONISH	6.3	6.3
CAPE BRETON	6.4	5.9
COLCHESTER	7.0	6.0
CUMBERLAND	7.6	5.5
DIGBY	7.6	5.8
GUYSBOROUGH	7.0	5.5
HALIFAX	5.1	5.8
HANTS	5.9	5.8
INVERNESS	7.8	7.0
KINGS	5.8	5.3
LUNENBURG	5.5	4.1
PICTOU	6.7	5.9
QUEENS	6.4	4.7
RICHMOND	6.0	4.2
SHELBURNE	6.3	5.5
VICTORIA	8.0	6.3
YARMOUTH	6.5	5.1

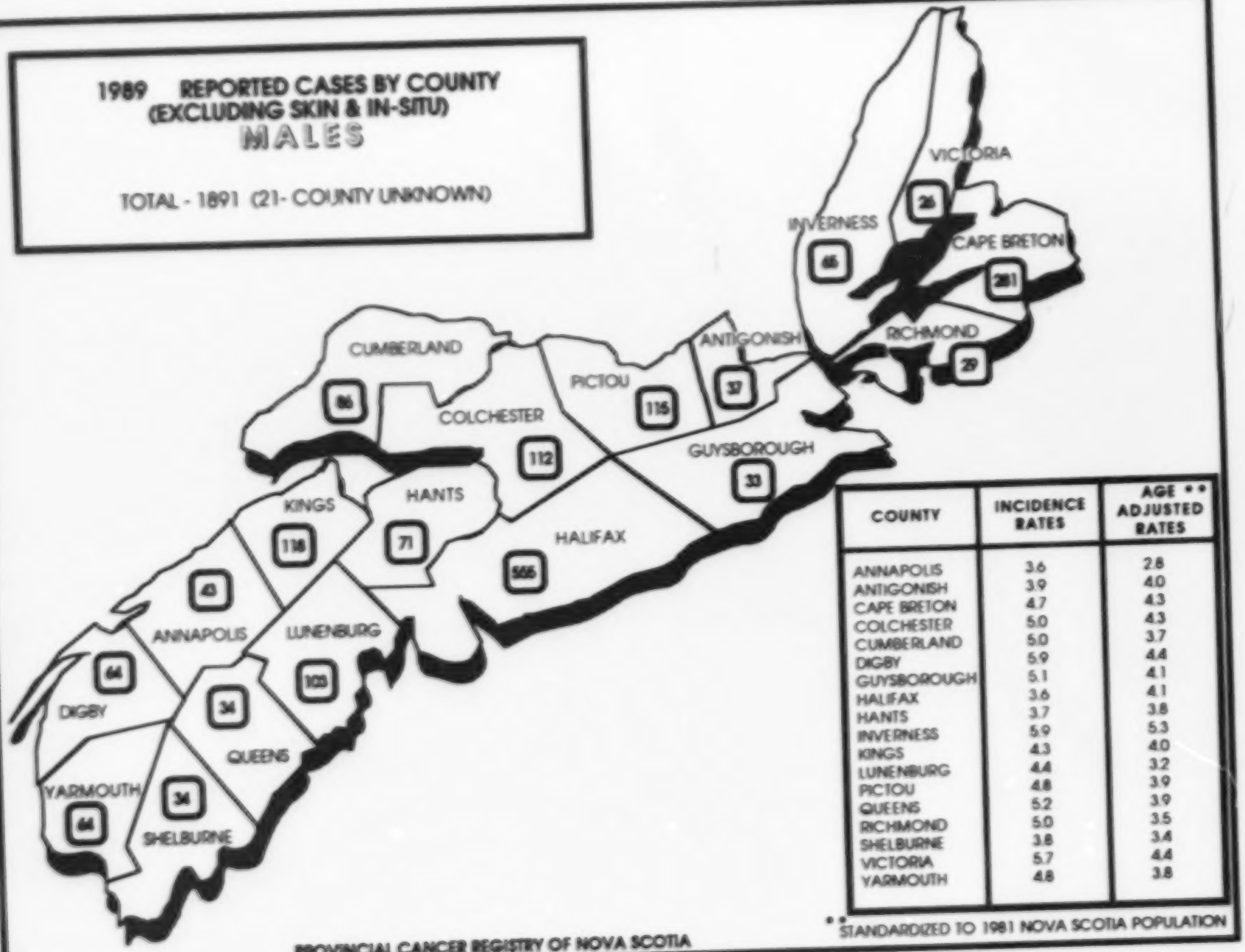
PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

** STANDARDIZED TO 1981 NOVA SCOTIA POPULATION

1989 REPORTED CASES BY COUNTY (EXCLUDING SKIN & IN-SITU)

MALES

TOTAL - 1891 (21- COUNTY UNKNOWN)



COUNTY	INCIDENCE RATES	AGE ** ADJUSTED RATES
ANNAPOLIS	3.6	2.8
ANTIGONISH	3.9	4.0
CAPE BRETON	4.7	4.3
COLCHESTER	5.0	4.3
CUMBERLAND	5.0	3.7
DIGBY	5.9	4.4
GUYSBOROUGH	5.1	4.1
HALIFAX	3.6	4.1
HANTS	3.7	3.8
INVERNESS	5.9	5.3
KINGS	4.3	4.0
LUNENBURG	4.4	3.2
PICTOU	4.8	3.9
QUEENS	5.2	3.9
RICHMOND	5.0	3.5
SHELBURNE	3.8	3.4
VICTORIA	5.7	4.4
YARMOUTH	4.8	3.8

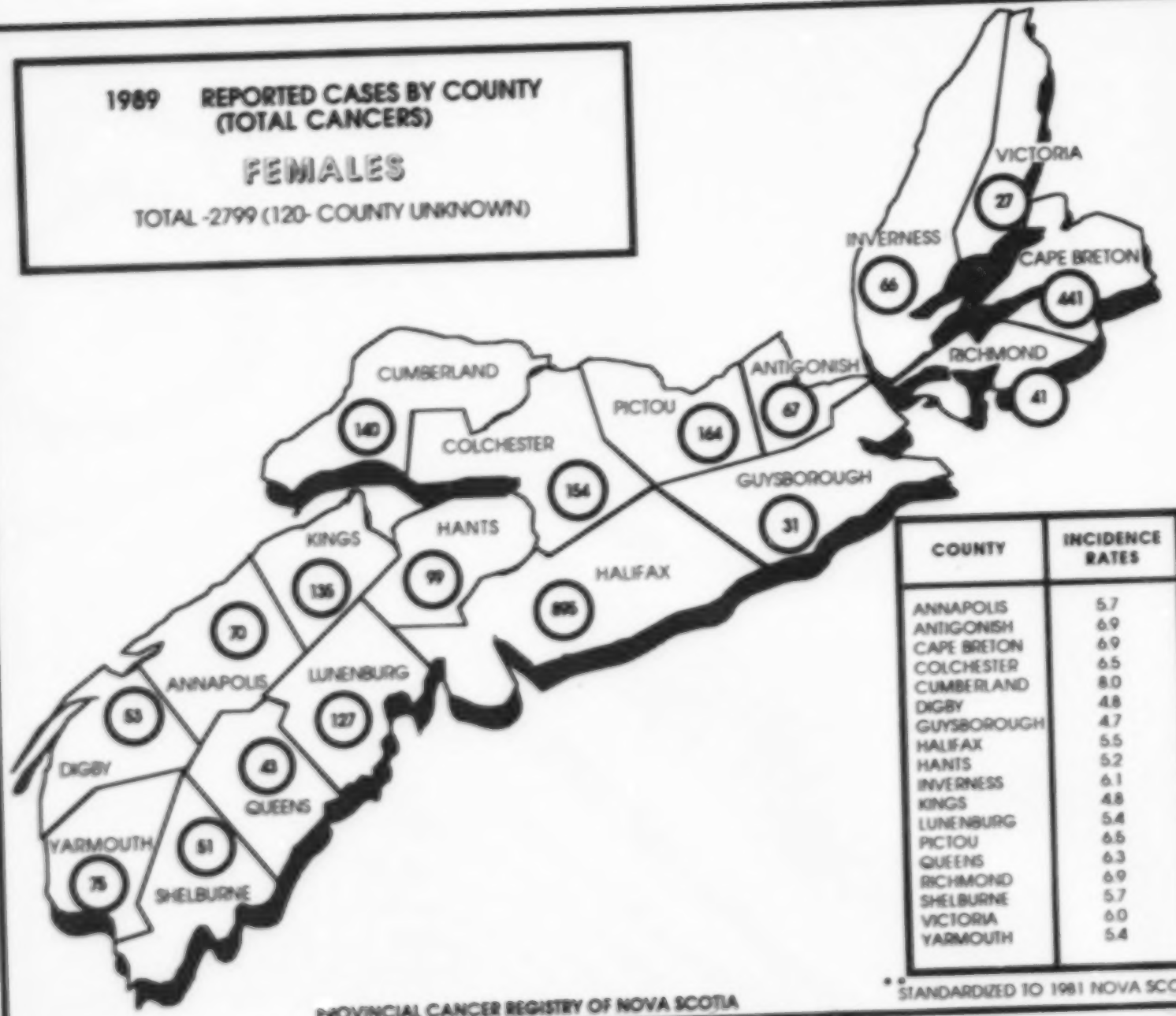
** STANDARDIZED TO 1981 NOVA SCOTIA POPULATION

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

1989 REPORTED CASES BY COUNTY (TOTAL CANCERS)

FEMALES

TOTAL -2799 (120- COUNTY UNKNOWN)



COUNTY	INCIDENCE RATES	AGE ** ADJUSTED RATES
ANNAPOLIS	5.7	4.3
ANTIGONISH	6.9	6.9
CAPE BRETON	6.9	6.1
COLCHESTER	6.5	5.6
CUMBERLAND	8.0	5.8
DIGBY	4.8	3.7
GUYSBOROUGH	4.7	4.0
HALIFAX	5.5	5.7
HANTS	5.2	5.3
INVERNESS	6.1	5.4
KINGS	4.8	4.4
LUNENBURG	5.4	4.2
PICTOU	6.6	5.8
QUEENS	6.3	4.9
RICHMOND	6.9	6.0
SHELBURNE	5.7	5.1
VICTORIA	6.0	5.0
YARMOUTH	5.4	4.4

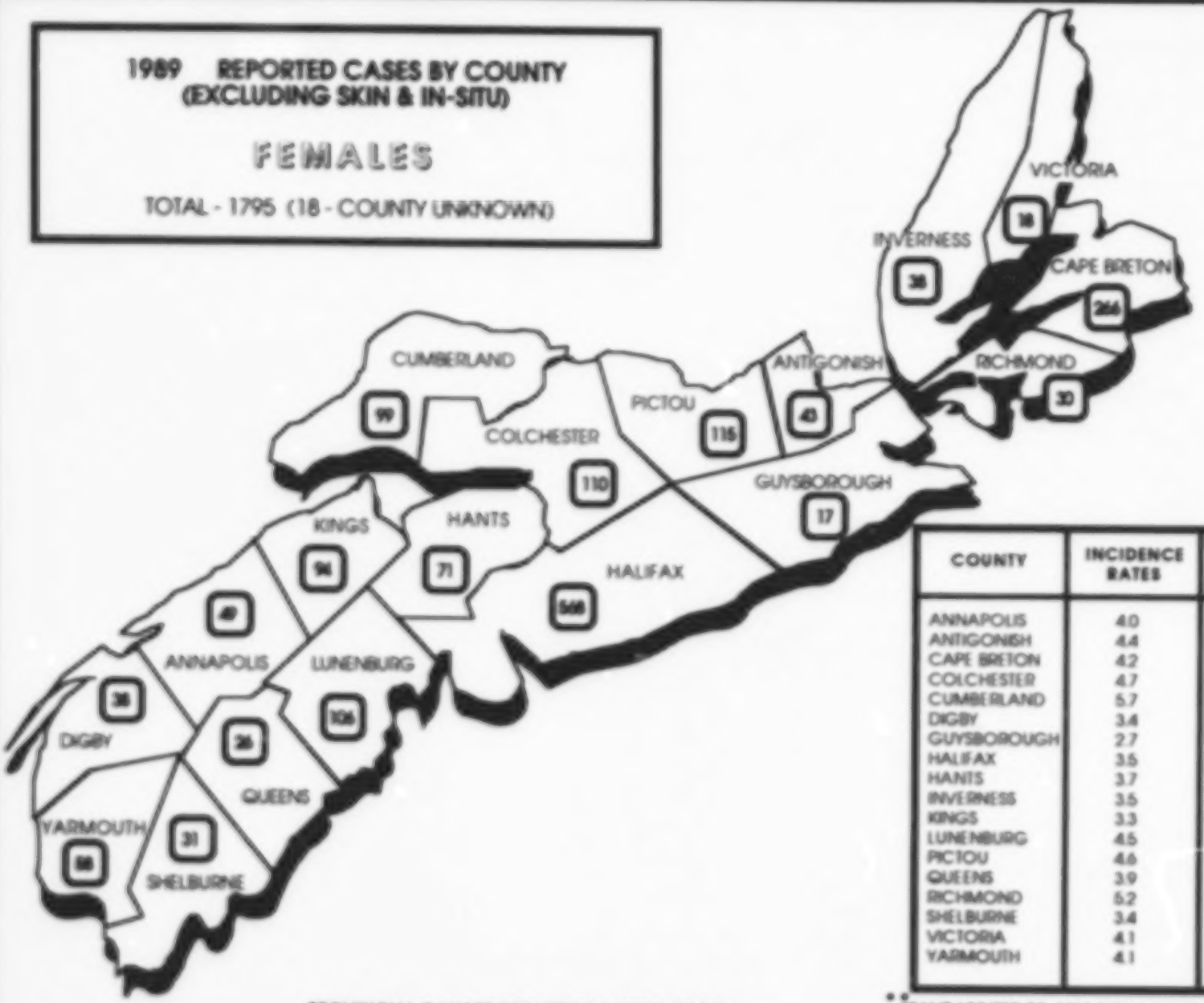
** STANDARDIZED TO 1981 NOVA SCOTIA POPULATION

PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

1989 REPORTED CASES BY COUNTY (EXCLUDING SKIN & IN-SITU)

FEMALES

TOTAL - 1795 (18 - COUNTY UNKNOWN)



COUNTY	INCIDENCE RATES	AGE ** ADJUSTED RATES
ANNAPOLIS	4.0	3.0
ANTIGONISH	4.4	4.5
CAPE BRETON	4.2	3.6
COLCHESTER	4.7	4.0
CUMBERLAND	5.7	4.1
DIGBY	3.4	2.6
GUYSBOROUGH	2.7	2.2
HALIFAX	3.5	3.7
HANTS	3.7	3.8
INVERNESS	3.5	3.2
KINGS	3.3	3.1
LUNENBURG	4.5	3.5
PICTOU	4.6	3.9
QUEENS	3.9	3.1
RICHMOND	5.2	4.5
SHELBURNE	3.4	3.1
VICTORIA	4.1	3.4
YARMOUTH	4.1	3.5

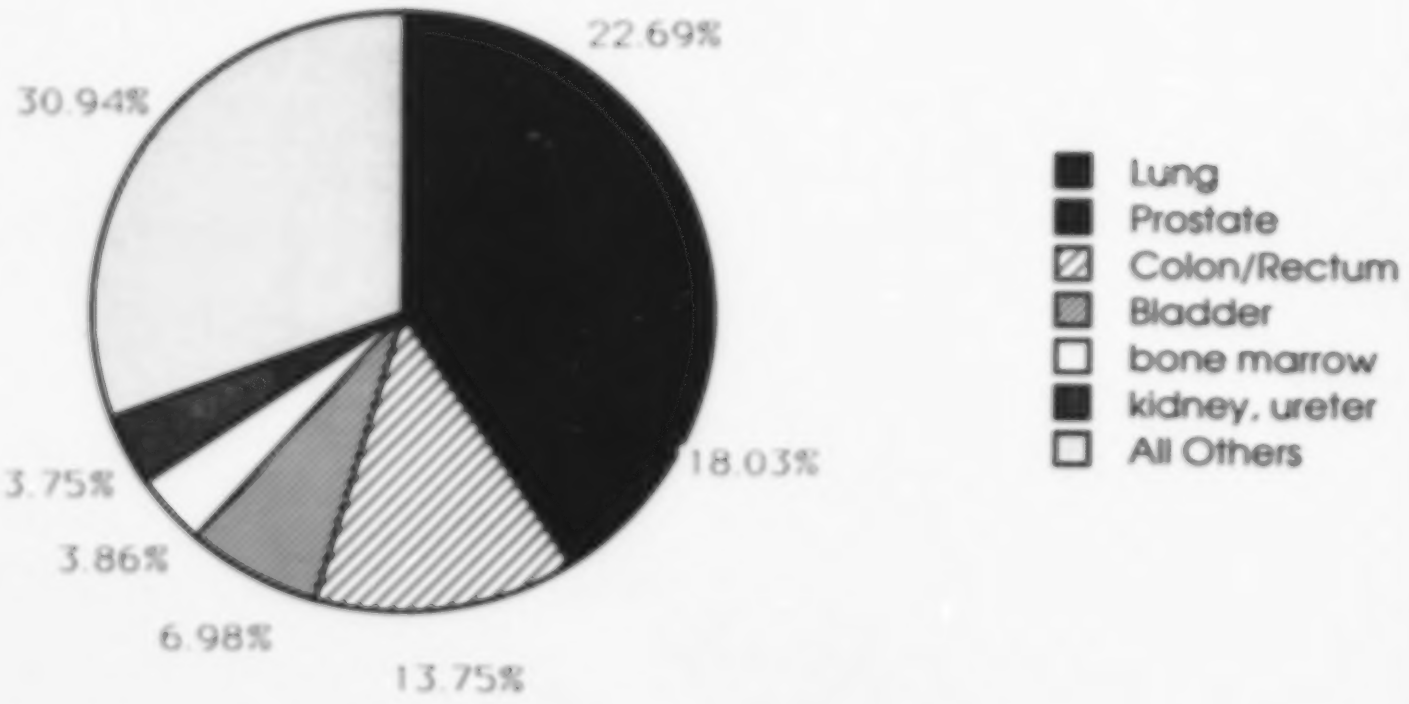
PROVINCIAL CANCER REGISTRY OF NOVA SCOTIA

** STANDARDIZED TO 1981 NOVA SCOTIA POPULATION

Most Common Primary Sites

Incidence (New Cases) 1989

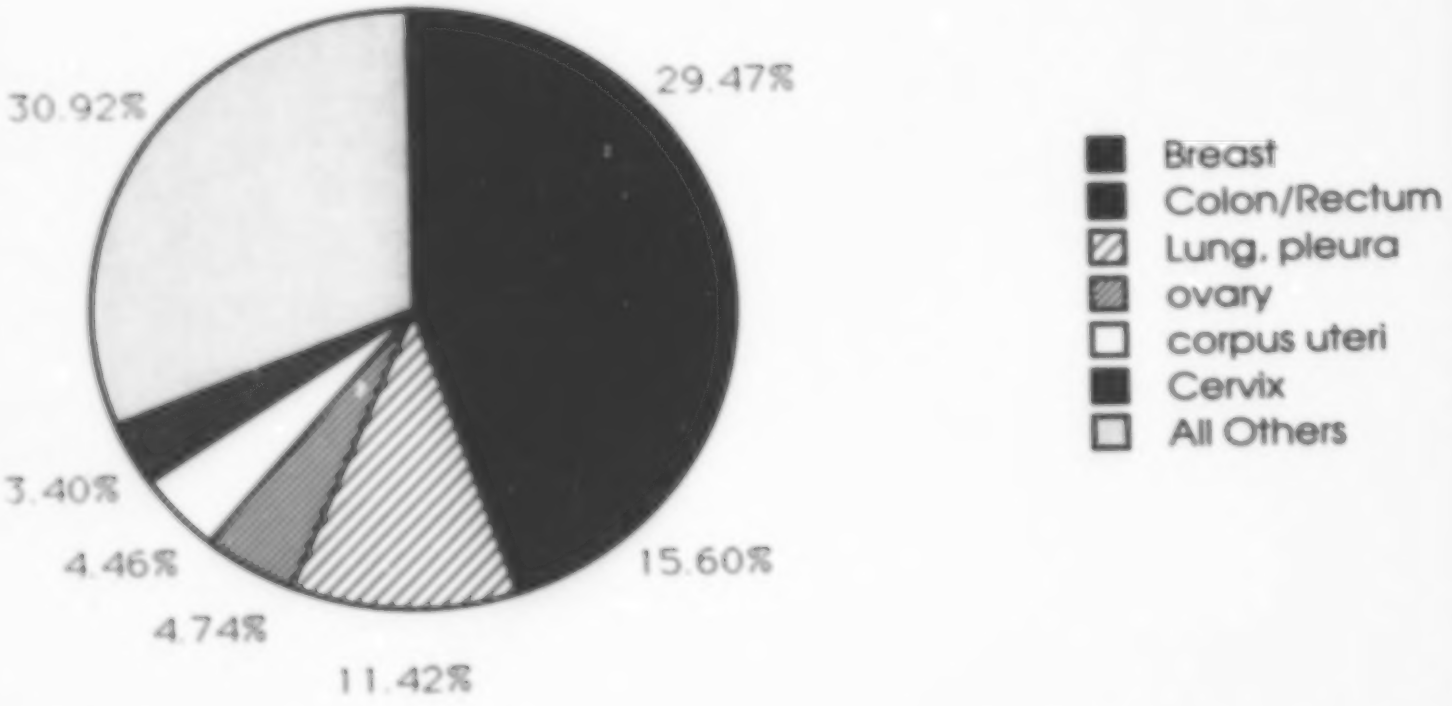
MALES (1891)



Most Common Primary Sites

Incidence (New Cases) 1989

FEMALES (1795)



This insert is included to provide the Gastrointestinal TSG summary which was inadvertently omitted from the Annual Report.

Gastrointestinal TSG

Coordinators	A. Bodurtha, MD, FRCPS O. Wong, MD, FRCPC A. Cake, RN	Time	8:30 a.m. - 1:30 p.m.
		Site	Halifax Clinic
		Conference	Monday 1:00 p.m. - 1:30 p.m.
Frequency	Monday		

In addition to the regular clinics when cross consultations are common, this group meets at monthly intervals. There is a precirculated agenda and minutes are kept. Members include Drs. J. Curry, P. Roy, R. MacCormick, O. Wong, F. Karsan, C. MacDonald, A. Bodurtha, G. Konok, B. Vair, D. Malatjalian, M. Burnstein, S. vanZantens and B. MacIntyre. The deliberations of the committee were devoted to patient management issues, multidisciplinary consultations, clinical trials, protocols, research issues, and the development of standard treatment programs. Policies for the referral of new patients have been developed together with guidelines for the follow-up of patients. The group prefers the concept of patients being referred to individual physicians rather than to the clinic.

A weekly conference is held for the multidisciplinary consultation of newly referred or difficult cases where a change in management is required. A number of ongoing clinical trials for GI tract tumours are in progress for anal carcinoma and colorectal carcinoma. A worksheet for anal carcinoma to facilitate prospective research has been developed and the minimal data requirements for all new patients has been listed. In the future it is planned to develop standard treatment programs for the remaining GI tract neoplasms and to increase participation in clinical trials. Retrospective reviews of our own experience will be undertaken along with concurrent data collection to improve future studies.

Members of the Staff

Administration

Senior Administrative Staff

H. Churchill, CHE
Executive Director

P. Fitzpatrick, MB,BS,FRCPC,FRCR†
Physician-in-Chief

M. MacIntyre, RN,BScN,MHSA†
Executive Assistant

Department Heads

L. Burgess, RT(T)
Director of Radiotherapy

T. Croucher, CCHRA(C)
Director of Health Records

J. Dickson, RN,BN
Director of Nursing

G. Hatcher
Finance Officer

J. Smith
Coordinator, Data Processing

Department of Radiation Oncology

J. Filbee, MB,BS,FRCPC
Acting Head

G. Ege, MD,FRCPC,FRCR,FRCS†*
P. Fitzpatrick, MB,BS,FRCPC,FRCR†
P. Joseph, MD,FRCPC
F. Karsan, MD,FRCPC†
A. Tadros, MD,FRCPC†
T. Whelan, MD,FRCPC
O. Wong, MD,FRCPC

Residents: M. Nolan, MD
S. Voruganti, MB,BS

Department of Medical Oncology

R. MacCormick, MD,FRCPC
Acting Head

R. Gregg, MD,FRCPC†
P. Lopez, MD,FRCPC†

Department of Surgical Oncology and Medical Specialties

Active Consultant Staff

R. Fraser, MD,FRCSC
Head

P. Belitsky, MD,FRCSC - Head, Urology
A. Bodurtha, MD,FRSCS - Head, Surgery
J. Ross, MD,BS,FRCPC
- Head, Dermatology
E. Attia, MD,FRCSC
- Head, Otolaryngology
J. Jeffrey, MD,FRCSC
- Head, Gynaecologic Oncology
D. Bethune, MD,FRCSC
C. Bugden, MD,FRCSC
M. Gross, MB,BS,FRCSC
R. Holness, MD,FRCSC
R. Hoar, DDS,MS
B. Horsman, MD,FRCSC
D. Janigan, MD,FRCPC
K. Klotz, MD,FRCPC
G. Langley, MD,FRCPC
A. MacDonald, MD,FRCSC
J. Nasser, MD,FRCSC
S. Norvell, MD,FRSCS
S. Robinson, MD,FRCPC
B. Steele, MD,FRCSC
M. Tompkins, MD,FRCSC
N. Walsh, MB,BCH,BAO
F. Wong, MD,FRCSC
I. Zayid, MB,BS,FRCPC,FRCPATH

Department of Medical Physics

J. Andrew, PhD,FCCPM,AMMP†
Director

J. Aldrich, PhD,FCCPM
J. Berkey, BSc†
J. Berry, MSc*
K. Chantziantoniou, MSc†
C. Daniels, MSc,FCCPM
M. Hale, PhD
S. Jackson, PhD,FCCPM*
J. Meng, PhD†
S. Samant, PhD†

Department of Research and Development

J. Aldrich, PhD,FCCPM†
Director

G. Hirsch, RN,MScN Coordinator, Clinical Trials

Tumour Site Group Coordinators

Breast

J. Filbee, MB,BS,FRCPC*
G. Ege, MD,FRCPC,FRCR,FRCS*
T. Whelan, MD,FRCPC
B. Steele, MD,FRCSC

Head and Neck/ENT

E. Attia, MD,FRCSC
P. Fitzpatrick, MB,BS,FRCPC,FRCR

Ophthalmology

B. Horsman, MD,FRCPC
P. Fitzpatrick, MB,BS,FRCPC,FRCR

Dermatology

J. Ross, MB,BS,FRCPC
P. Fitzpatrick, MB,BS,FRCPC,FRCR

Gynaecology

R. Fraser, MD,FRCSC*
J. Jeffrey, MD,FRCSC
T. Whelan, MD,FRCPC

Genitourinary

S. Awad, MD,FRCSC*
O. Millard, MD,FRCSC
P. Joseph, MD,FRCPC

Gastrointestinal

A. Bodurtha, MD,FRCSC
O. Wong, MD,FRCPC

Thoracic

D. Bethune, MD,FRCSC
O. Wong, MD,FRCPC

Central Nervous System

P. Joseph, MD,FRCPC
R. Holness, MD,FRCSC

Endocrine

G. Ege, MD,FRCPC,FRCR,FRCS*
A. MacDonald, MD,FRCSC
A. Tadros, MD,FRCPC

Paediatrics

O. Wong, MD,FRCPC
A. Pyesmany, MD,FRCPC

Musculoskeletal

M. Gross, MB,BS,FRCSC
R. MacCormick, MD,FRCPC

Haematology

L. Fernandez, MD,FRCPC
R. MacCormick, MD,FRCPC

Psychosocial/Pain

J. Filbee, MB,BS,FRCPC
J. Clark, MD,FRCPC

* Resignation
† New Appointment

CTRF

Nova Scotia

1980 - 1990

Celebrating 10 years

of

Caring

Discovering

Sharing

Growing